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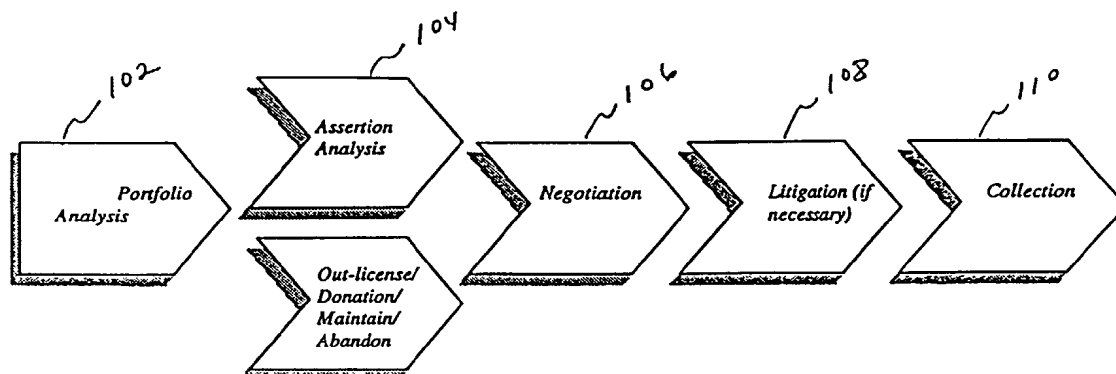
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(54) Title: PATENT-RELATED TOOLS AND METHODOLOGY FOR USE IN THE LICENSING PROCESS, GENERAL MANAGEMENT OF A BUSINESS AND IN THE MERGER AND ACQUISITION PROCESS

Flowchart of the Licensing Process



(57) Abstract: The present invention is related to patent-related tools, and methodologies involving those tools, for assisting in all stages of the licensing process (Fig. 1), in the general management of a business process and in the merger and acquisition process. The IPAM server may be used in conjunction with the tools and methodology to aid in the processes. The licensing process goes through a variety of stages before a patent, software program etc. is finally licensed by another party. The licensing process may have 5 stages, including a portfolio analysis stage (102), assertion analysis stage (104), negotiation stage (106), litigation stage (108) and collection stage (110). The General Management of a business goes through a variety of stages (states). Merger and Acquisition Process goes through a variety of stages before a Company A and Company B come to an agreement regarding the merger or the acquisition.



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PATENT-RELATED TOOLS AND METHODOLOGY FOR USE IN THE
LICENSING PROCESS, GENERAL MANAGEMENT OF A BUSINESS
AND IN THE MERGER AND ACQUISITION PROCESS

BACKGROUND OF THE INVENTION

5 Field of the Invention

The invention is directed to patent-related tools and methodologies involving those tools for assisting in all stages of 1) the licensing process, 2) the general management of a business, and 3) the merger and acquisition process.

Related Art to the Licensing Process

10 The licensing process typically goes through a variety of stages before a patent, software program, etc., is finally licensed by another party. A flowchart, as shown in FIG. 1, is the classic way to look at the licensing process. FIG. 1 illustrates that the licensing process may have, but is not limited to, five (5) stages. The five stages include a portfolio analysis stage 102, an assertion
15 analysis stage 104, a negotiation stage 106, a litigation stage 108, and a collection stage 110.

The first stage is the portfolio analysis stage 102. Once a business goes through the research and development (R&D) stages for multiple products and/or services a R&D portfolio is created. One or more of the projects and/or services
20 in the R&D portfolio may eventually be protected by one or more patents to create a patent portfolio. It is important for a business with such a portfolio to be able to leverage its patents to receive the most benefit. Therefore, the purpose of the portfolio analysis stage 102 in the licensing process is to investigate the patents of a company and determine how to license one or more of the patents
25 contained therein.

Although the present invention is described with reference to a patent portfolio, the present invention is not limited to patents. In fact, the present invention applies to any item that another party may take a license for, including trademarks, software programs, know-how (e.g., trade secrets) and so forth.

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Throughout the description of the present invention, "user company" typically refers to the company who owns the patent and "other company" typically refers to the company who is considering licensing the patent from the user company.

5 The second stage is the assertion analysis stage 104 where each patent in the portfolio is analyzed and determined how it will be asserted. Typical ways of taking action on a patent include out-licensing, donating, maintaining, and abandoning the patent. The basic questions asked at this stage include: "Do multiple patents protect similar technology?", "Are competitors interested in the technology protected by one or more patents?", and "Do any patents cover technology that is out-dated?". More particularly, here the patents in the portfolio are screened against public statements, products, services offered by others, etc., to see if any claimed features or elements might be used by another company. Web crawlers, corporate intelligence, reverse engineering, etc., are examples of how this information may be gathered. A team then analyzes this information and highlights potential infringement for follow-up.

15 The next stage relates to the negotiation stage 106. In this stage, one or more people are interested in licensing a patent. This stage tests the market of the patent for which a license is being negotiated.

20 The following stage is the litigation stage 108. The litigation stage 108 may or may not be necessary, but typically occurs when patent rights are asserted against a third party and the third party challenges the patent's validity.

25 Finally, the collection stage 110 is the process of collecting royalty fees for a license. Here, it is useful for the collection team to have an understanding of how well a licensed patent should be doing in the market in order to determine the amount of royalties the user company can expect to receive.

How much time is spent at each stage in the licensing process for each patent in the portfolio depends partly on the patent itself. For example, a patent may have great economic value or it may have little economic value.

30 It is possible to facilitate, expedite, and enhance the licensing process by building upon work that has been performed in the past. However, there are little

if any automated tools for assisting in this process. There are even less automated tools that utilize patent-related tools for assisting in the licensing process.

Related Art to the General Management of a Business

5 A business typically goes through a variety of stages (i.e., states), from start-up to fully established. A flowchart, as shown in FIG. 91, shows these stages. FIG. 91 illustrates that the stages of a business but is not limited to, four (4) stages. The four stages include an embryonic stage 9102, a growth stage 9104, an expansion stage 9106 and a mature stage 9108. In each of these stages, the Chief Executive Officer ("CEO") will handle the intellectual property of the
10 business differently. It is important to note that although some businesses go through all four stages, others may only go through one stage, two stages, and so forth.

The first stage is the embryonic stage 9102. A business in the embryonic stage 9102 is generally a start-up company (a couple of people) or a venture unit
15 of a more established company. Typically, the strategic plan of a business in the embryonic stage 9102 includes focusing on a single product line, where the single product line is usually breaking new ground. The posture of the CEO of a business in the embryonic stage 9102 is to aggressively patent ahead the new product features, services and business models that the business in the embryonic
20 stage 9102 is developing. Funds for intellectual property is usually limited and must be focused on the single product line. This protects the business' technology or art at a later stage and provides potential licensing revenue opportunities.

25 The second stage of a business is the growth stage 9104. A business in the growth stage 9104 is a small company or business unit. The small company or business unit is experiencing high growth. At this point, a business typically has multiple product lines. In the growth stage 9104 a business has more of a strategic view than it does in the embryonic stage 9102. The business spends

more time defending a new business concept or technology. It can now afford to pay for more intellectual property protection because immediate profits is secondary. The posture of the CEO of a business in the growth stage 9104 is to manage intellectual property so as to pro-actively capture internal advances and licensing outside art covering new product features, processes and business practices as they are being rapidly developed.

The third stage of a business is the expansion stage 9106. A business in the expansion stage 9106 is a stable business or company unit. The stable business or company unit is experiencing sound growth and is profitable. Money is flowing easily and the CEO is concentrating on covering all possible areas related to the business' technology, along with venturing into different technological areas, new geographic areas, and/or new market segments. The posture of the CEO of a business in the expansion stage 9106 is to pro-actively manage intellectual property to support growth initiatives by limiting the competition from going into new markets and geographies.

The final stage of a business is the mature stage 9108. A business in the mature stage 9108 is an older company or business unit. Here, growth is slow and innovation is reduced. The older company or business unit is mostly concerned with protecting what it currently has with minimum effort and time. There is typically a large, positive cash flow and the older company or business unit is focused on defending its market during any consolidation phases. The posture of the CEO of a business in the mature stage 9108 is to look at the company portfolio (including, but not limited to, patents, software, trademarks, and know-how or trade secrets) and determine how to improve its cash flow. Ways to improve cash flow is to look at each patent, software, trademark, etc., in its portfolio and determine whether to sell, license, donate or abandon it.

Portfolios related to the portfolio review stage 9201 (FIG. 92). Portfolios and the portfolio review stage 9201 were described in "Patent-Related Tools and Methodology for Use in Research and Development Projects," invented by Germeraad *et. al.*, Appl. No. 09/545,564, Filed: April 7, 2000, now pending

(incorporated by reference in its entirety) and "Patent-Related Tools and Methodology for Use in the Licensing Process," invented by Germeraad *et.al.*, Appl. No. To be assigned, Filed: April 28, 2000 (incorporated by reference in its entirety). Once a business goes through the research and development (R&D) stages for multiple products and/or services a R&D portfolio is created. One or more of the projects and/or services in the R&D portfolio may eventually be protected by one or more patents to create a patent portfolio. It is important for a business with such a portfolio to be able to leverage its patents to receive the most benefit. Therefore, the purpose of the portfolio analysis stage 102 in the general management of a business is to investigate the patents of a company and determine how to make the most revenue from the patents contained therein.

Although the present invention is described with reference to a patent portfolio, the present invention is not limited to patents. In fact, the present invention applies to any item that another party may take a license for, including trademarks, software programs, know-how (e.g., trade secrets) and so forth.

It is possible to facilitate, expedite, and enhance the general management of a business by building upon work that has been performed in the past. However, there are few if any automated tools for assisting in this process. There are even fewer automated tools that utilize patent-related tools for assisting in the general management of a business.

Related Art to the Merger and Acquisition Process

The merger and acquisition process typically goes through a variety of stages before Company A and Company B come to an agreement regarding the merger of the two, or the acquisition of one of the companies. A flowchart, as shown in FIG. 146, is the classic way to look at the merger and acquisition process. FIG. 146 illustrates that the merger and acquisition process may have, but is not limited to, four (4) stages. The four stages include an identify targets stage 14602, an evaluate/analyze stage 14604, a due diligence stage 14606 and

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a negotiation/consummation/integration stage 14608 (hereafter "negotiation stage 14608").

Prior to Company A even considering a merger and/or acquisition of another company, Company A determines that it needs growth and/or profits. Once this is determined, Company A may decide to consider a merger and/or acquisition of another company to satisfy its desired growth and/or profits. Management of Company A then sets relationship/selection criteria for any merger or acquisition of another company it will consider.

The first stage in the merger and acquisition process is the identify targets stage 14602. Here, the management of Company A has set the relationship/selection criteria for any merger and/or acquisition of another company it will consider.

The second stage is the evaluate/analyze stage 14604. Here, various companies are evaluated and analyzed for Company A to approach for possible mergers and/or acquisitions. The management of Company A will make one or more recommendations of other companies to approach for a merger and/or acquisition.

The next stage is the due diligence stage 14606. Here, due diligence is conducted on each of the companies the management of Company A made a recommendation on in the evaluate/analyze stage 14604.

The final stage is the negotiation stage 14608. In this stage, Company A conducts negotiations and/or consummation and/or integration of one or more companies that passed due diligence in the due diligence stage 14606. The outcome of this stage is the possible merger or acquisition of another company that Company A has determined will satisfy its desire for growth and/or profit.

It is possible to facilitate, expedite, and enhance the merger and acquisition process by building upon work that has been performed in the past. However, there are little if any automated tools for assisting in this process. There are even less automated tools that utilize patent-related tools for assisting in the merger and acquisition process.

BRIEF SUMMARY OF THE INVENTION

The present invention is related to patent-related tools, and methodologies involving those tools, for assisting in all stages of the licensing process. In the present invention, the IPAM server may be used in conjunction with the tools and methodologies to aid in the licensing process. These tools or methods include, but are not limited to, a topographic map, a features grouping chart, a portfolio actions map, a technology classification, a Standard Industrial Codes (SIC) classification, a patent count per year chart, an application count per year chart, a technology by company map, a patent citation tree, a nested patent citation tree, a product/patent/revenue table, document annotation, a corporate/dividends preference/cost table, a months to issue patents table, and a time remaining on patents table.

The IPAM server may also be used in conjunction with the tools and methodologies to aid in the general management of a business. These tools or methods include, but are not limited to, a topographic map, a features grouping chart, a portfolio actions map, a core technologies map, a related markets map, a patent activity chart, a patent activity by company chart, a recent patent applications chart, a technology by company map, a patent citation tree, a nested patent citation tree, a product/patent/revenue table, document annotation, and a time remaining on patents table.

The IPAM server may also be used in conjunction with the tools and methodologies to aid in the merger and acquisition process. These tools or methods include, but are not limited to, a topographic map, a technology classification, an SIC classification, a radar diagram, a patent citation tree, a citation root tree, a citation count report, a citation frequency graph, a citation frequency report, a patent count/year, an application count/year, a patent aging graph, a U.S. primary class/subclass, an international patent class, an assignee patent count report by primary class/subclass, a patent count graph by number of patents, a top assignees primary class/subclass by percent of total, a months to

issue patents, a features grouping, a document annotation, an inventor patent count/assignee, an inventor patent count graph, and an inventor data.

Further features and advantages of the invention, as well as the structure and operation of various embodiments of the invention, are described in detail below with reference to the accompanying drawings. The drawing in which an element first appears is typically indicated by the leftmost character(s) and/or digit(s) in the corresponding reference number.

BRIEF DESCRIPTION OF THE FIGURES

The present invention will be described with reference to the accompanying drawings, wherein:

FIG. 1 illustrates a flowchart relating to the licensing process according to an embodiment of the present invention;

FIG. 2 is an overview of the licensing tools of the present invention that map to each stage in the licensing process according to an embodiment of the present invention;

FIG. 3 illustrates the topographic map facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 4 is a flowchart depicting how the IPAM server works in conjunction with the topographic map to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 5 illustrates the topographic map facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 6 illustrates the topographic map facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 7 illustrates the features grouping facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 8 is a flowchart depicting how the IPAM server works in conjunction with the features grouping to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 9 illustrates the features grouping facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 10 illustrates the features grouping facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 11 illustrates the portfolio actions map facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 12 is a flowchart depicting how the IPAM server works in conjunction with the portfolio actions map to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 13 illustrates the technology classifications facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 14 is a flowchart depicting how the IPAM server works in conjunction with the technology classifications to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 15 illustrates the technology classifications facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 16 illustrates the technology classifications facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 17 illustrates the SIC classifications facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 18 is a flowchart depicting how the IPAM server works in conjunction with the SIC classifications to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 19 illustrates the SIC classifications facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 20 illustrates the SIC classifications facilitating the collection stage of the licensing process according to an embodiment of the present invention;

FIG. 21 illustrates the patent count facilitating the assertion analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 22 is a flowchart depicting how the IPAM server works in conjunction with the patent count to aid in the assertion analysis stage according to an embodiment of the present invention;

FIG. 23 illustrates the patent count per year facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 24 illustrates the application count facilitating the assertion analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 25 is a flowchart depicting how the IPAM server works in conjunction with the application count to aid in the assertion analysis stage according to an embodiment of the present invention;

FIG. 26 illustrates the application count per year facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 27 illustrates the technology by company map facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 28 is a flowchart depicting how the IPAM server works in conjunction with the technology by company to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 29 illustrates the technology by company map facilitating the assertion analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 30 illustrates the technology by company map facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 31 illustrates the patent citation tree facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 32 is a flowchart depicting how the IPAM server works in conjunction with the patent citation tree to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 33 illustrates the patent citation tree facilitating the assertion analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 34 illustrates the patent citation tree facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 35 illustrates the patent citation tree facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 36 illustrates the nested patent citation tree facilitating the assertion analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 37 is a flowchart depicting how the IPAM server works in conjunction with the nested patent citation tree to aid in the assertion analysis stage according to an embodiment of the present invention;

FIG. 38 illustrates the nested patent citation tree facilitating the negotiation analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 39 illustrates the product/patent/revenue table facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 40 is a flowchart depicting how the IPAM server works in conjunction with the product/patent/revenue table to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 41 illustrates the document annotation facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 42 is a flowchart depicting how the IPAM server works in conjunction with the document annotation to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 43 illustrates the document annotation facilitating the assertion analysis stage of the licensing process according to an embodiment of the present invention;

FIG. 44 illustrates the document annotation facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 45 illustrates the document annotation facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 46 illustrates the inventors table facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 47 is a flowchart depicting how the IPAM server works in conjunction with the inventors table to aid in the negotiation stage according to an embodiment of the present invention;

FIG. 48 illustrates the inventors table facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 49 illustrates the months to issue patents facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 50 is a flowchart depicting how the IPAM server works in conjunction with the months to issue patents to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 51 illustrates the months to issue patents facilitating the negotiation stage of the licensing process according to an embodiment of the present invention;

FIG. 52 illustrates the time remaining on patents facilitating the portfolio review stage of the licensing process according to an embodiment of the present invention;

FIG. 53 is a flowchart depicting how the IPAM server works in conjunction with the time remaining on patents to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 54 illustrates the time remaining on patents facilitating the litigation stage of the licensing process according to an embodiment of the present invention;

FIG. 55 illustrates the time remaining on patents facilitating the collection stage of the licensing process according to an embodiment of the present invention;

FIGs. 56-59 are exemplary screen shots of the IPAM server's user interface relating to the boolean and/or natural language search according to an embodiment of the present invention;

FIGs. 60-63 are exemplary screen shots of the IPAM server's user interface relating to searching patents by the same assignee according to an embodiment of the present invention;

FIGs. 64-67 are exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to inventors according to an embodiment of the present invention;

FIGs. 68-72 are exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to backward citation according to an embodiment of the present invention;

FIGs. 73-77 are exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to forward citation according to an embodiment of the present invention;

FIGs. 78-90 are exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to U.S. Patent Classifications according to an embodiment of the present invention;

FIG. 91 illustrates a flowchart relating to the stages of a business according to an embodiment of the present invention;

FIG. 92 is an overview of the general management tools of the present invention that map to each stage of a business to aid in the general management of each according to an embodiment of the present invention;

FIG. 93 illustrates the topographic map facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 94 is a flowchart depicting how the IPAM server works in conjunction with the topographic map to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 95 illustrates the features grouping facilitating the general management of the portfolio review stage of a business according to an embodiment of the present invention;

FIG. 96 is a flowchart depicting how the IPAM server works in conjunction with the features grouping to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 97 illustrates the portfolio actions map facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 98 is a flowchart depicting how the IPAM server works in conjunction with the portfolio actions map to aid in the embryonic stage according to an embodiment of the present invention;

FIG. 99 illustrates the portfolio actions map facilitating the general management of the growth stage a business according to an embodiment of the present invention;

FIG. 100 illustrates the portfolio actions map facilitating the general management of the expansion stage a business according to an embodiment of the present invention;

FIG. 101 illustrates the portfolio actions map facilitating the general management of the mature stage a business according to an embodiment of the present invention;

FIG. 102 illustrates the portfolio actions map facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 103 illustrates the core technologies map facilitating the general management of the expansion stage of a business according to an embodiment of the present invention;

FIG. 104 is a flowchart depicting how the IPAM server works in conjunction with the core technologies map to aid in the expansion stage according to an embodiment of the present invention;

FIG. 105 illustrates the core technologies map facilitating the general management of the mature stage of a business according to an embodiment of the present invention;

FIG. 106 illustrates the core technologies map facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 107 illustrates the related markets map facilitating the general management of the expansion stage of a business according to an embodiment of the present invention;

FIG. 108 is a flowchart depicting how the IPAM server works in conjunction with the related markets map to aid in the expansion stage according to an embodiment of the present invention;

FIG. 109 illustrates the related markets map facilitating the general management of the mature stage of a business according to an embodiment of the present invention;

FIG. 110 illustrates the related markets map facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 111 illustrates the patent activity chart facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 112 is a flowchart depicting how the IPAM server works in conjunction with the patent activity chart to aid in the embryonic stage according to an embodiment of the present invention;

FIG. 113 illustrates the patent activity chart facilitating the general management of the growth stage of a business according to an embodiment of the present invention;

FIG. 114 illustrates the patent activity by company chart facilitating the general management of the expansion stage a business according to an embodiment of the present invention;

FIG. 115 is a flowchart depicting how the IPAM server works in conjunction with the patent activity by company chart to aid in the expansion stage according to an embodiment of the present invention;

FIG. 116 illustrates the patent activity by company chart facilitating the general management of the mature stage of a business according to an embodiment of the present invention;

FIG. 117 illustrates the recent patent applications chart facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 118 illustrates the recent patent applications chart facilitating the general management of the growth stage of a business according to an embodiment of the present invention;

FIG. 119 illustrates the technology by company map facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 120 is a flowchart depicting how the IPAM server works in conjunction with the technology by company map to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 121 illustrates the patent citation tree facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 122 is a flowchart depicting how the IPAM server works in conjunction with the patent citation tree to aid in the portfolio review stage according to an embodiment of the present invention;

FIG. 123 illustrates the nested patent citation tree facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 124 is a flowchart depicting how the IPAM server works in conjunction with the nested patent citation tree to aid in the embryonic stage according to an embodiment of the present invention;

FIG. 125 illustrates the nested patent citation tree facilitating the general management of the growth stage a business according to an embodiment of the present invention;

FIG. 126 illustrates the nested patent citation tree facilitating the general management of the expansion stage a business according to an embodiment of the present invention;

FIG. 127 illustrates the product/patent/revenue table facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 128 is a flowchart depicting how the IPAM server works in conjunction with the product/patent/revenue table to aid in the embryonic stage according to an embodiment of the present invention;

FIG. 129 illustrates the product/patent/revenue table facilitating the general management of the growth stage a business according to an embodiment of the present invention;

FIG. 130 illustrates the product/patent/revenue table facilitating the general management of the expansion stage a business according to an embodiment of the present invention;

FIG. 131 illustrates the product/patent/revenue table facilitating the general management of the mature stage a business according to an embodiment of the present invention;

FIG. 132 illustrates the product/patent/revenue table facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 133 illustrates the document annotation facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 134 is a flowchart depicting how the IPAM server works in conjunction with the document annotation to aid in the embryonic stage according to an embodiment of the present invention;

FIG. 135 illustrates the document annotation facilitating the general management of the growth stage a business according to an embodiment of the present invention;

FIG. 136 illustrates the document annotation facilitating the general management of the expansion stage a business according to an embodiment of the present invention;

FIG. 137 illustrates the document annotation facilitating the general management of the mature stage a business according to an embodiment of the present invention;

FIG. 138 illustrates the document annotation facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 139 illustrates the time remaining on patents chart facilitating the general management of the embryonic stage a business according to an embodiment of the present invention;

FIG. 140 is a flowchart depicting how the IPAM server works in conjunction with the time remaining on patents chart to aid in the embryonic stage according to an embodiment of the present invention;

FIG. 141 illustrates the time remaining on patents chart facilitating the general management of the growth stage a business according to an embodiment of the present invention;

5 FIG. 142 illustrates the time remaining on patents chart facilitating the general management of the expansion stage a business according to an embodiment of the present invention;

FIG. 143 illustrates the time remaining on patents chart facilitating the general management of the mature stage a business according to an embodiment of the present invention;

10 FIG. 144 illustrates the time remaining on patents chart facilitating the portfolio review stage according to an embodiment of the present invention;

FIG. 145 is a flowchart depicting how the IPAM server works in conjunction with the recent patent applications chart to aid in the embryonic stage according to an embodiment of the present invention;

15 FIG. 146 illustrates a flowchart relating to the stages of the merger and acquisition process according to an embodiment of the present invention;

FIG. 147 is an overview of the general management tools of the present invention that map to each stage in the merger and acquisition process according to an embodiment of the present invention;

20 FIG. 148 illustrates the topographic map facilitating the identify targets and the evaluate/analyze stages according to an embodiment of the present invention;

25 FIG. 149 is a flowchart depicting how the IPAM server works in conjunction with the topographic map to aid in the identify targets and the evaluate/analyze stages according to an embodiment of the present invention;

FIG. 150 illustrates the topographic map facilitating the evaluate/analyze and the negotiation stages according to an embodiment of the present invention;

FIG. 151 illustrates the topographic map facilitating the evaluate/analyze and the negotiation stages according to an embodiment of the present invention;

FIG. 152 illustrates the technology classification facilitating the identify targets and the evaluate/analyze stages according to an embodiment of the present invention;

FIG. 153 is a flowchart depicting how IPAM server works in conjunction with the technology classification to aid in the identify targets and the evaluate/analyze stages according to an embodiment of the present invention;

FIG. 154 illustrates the SIC classification facilitating the evaluate/analyze stage according to an embodiment of the present invention;

FIG. 155 is a flowchart depicting how IPAM server works in conjunction with the SIC classification to aid in the evaluate/analyze stage according to an embodiment of the present invention;

FIG. 156 illustrates the radar diagram facilitating the identify targets and the evaluate/analyze stages according to an embodiment of the present invention;

FIG. 157 is a flowchart depicting how the IPAM server works in conjunction with the radar diagram to aid in the identify targets and the evaluate/analyze stages according to an embodiment of the present invention;

FIG. 158 illustrates the patent citation tree facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 159 is a flowchart depicting how the IPAM server works in conjunction with the patent citation tree to aid in the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 160 illustrates the patent citation tree facilitating the negotiation stage according to an embodiment of the present invention;

FIG. 161 illustrates the patent citation tree facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 162 illustrates the citation root tree facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

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FIG. 163 is a flowchart depicting how the IPAM server works in conjunction with the citation root tree to aid in the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 164 illustrates the citation root tree facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 165 illustrates the citation count report facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 166 is a flowchart depicting how the IPAM server works in conjunction with the citation count report to aid in the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 167 illustrates the citation frequency graph facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 168 is a flowchart depicting how the IPAM server works in conjunction with the citation frequency graph to aid in the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 169 illustrates the citation frequency graph (backward or forward by assignee) facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 170 is an exemplary screen shot of a report produced by the IPAM server to assist the user company in searches relating to patent velocity in U.S. Patent Classifications according to an embodiment of the present invention;

FIG. 171 illustrates the citation frequency report facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 172 is a flowchart depicting how the IPAM server works in conjunction with the citation frequency report to aid in the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 173 illustrates the citation frequency report (by assignee) facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 174 illustrates the patent count/year facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 175 is a flowchart depicting how the IPAM server works in conjunction with the patent count/year to aid in the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 176 illustrates the patent count/year facilitating the evaluate/analyze and the due diligence stages according to an embodiment of the present invention;

FIG. 177 illustrates the patent count/year facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 178 illustrates the patent application count/year facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 179 is a flowchart depicting how the IPAM server works in conjunction with the patent application count/year to aid in the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 180 illustrates the patent aging graph facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 181 is a flowchart depicting how the IPAM server works in conjunction with the patent aging graph to aid in the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 182 illustrates the patent aging graph facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 183 illustrates the U.S. primary class/subclass facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 184 is a flowchart depicting how the IPAM server works in conjunction with the U.S. primary class/subclass to aid in the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 185 illustrates the international patent class facilitating the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 186 is a flowchart depicting how the IPAM server works in conjunction with the international patent class to aid in the evaluate/analyze and due diligence stages according to an embodiment of the present invention;

FIG. 187 illustrates the assignee patent count report by primary class/subclass facilitating the evaluate/analyze and negotiation stages according to an embodiment of the present invention;

FIG. 188 is a flowchart depicting how the IPAM server works in conjunction with the assignee patent count report by primary class/subclass to aid in the evaluate/analyze and negotiation stages according to an embodiment of the present invention;

FIG. 189 illustrates the assignee patent count report by primary class/subclass facilitating the evaluate/analyze and negotiation stages according to an embodiment of the present invention;

FIG. 190 illustrates the assignee patent count report by primary class/subclass facilitating the evaluate/analyze stage according to an embodiment of the present invention;

FIG. 191 illustrates the patent count graph by number of patents facilitating the evaluate/analyze stage according to an embodiment of the present invention;

FIG. 192 is a flowchart depicting how the IPAM server works in conjunction with the patent count graph by number of patents to aid in the evaluate/analyze stage according to an embodiment of the present invention;

FIG. 193 illustrates the top assignees primary class/subclass by percent of total facilitating the evaluate/analyze stage according to an embodiment of the present invention;

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FIG. 194 is a flowchart depicting how the IPAM server works in conjunction with the top assignees primary class/subclass by percent of total to aid in the evaluate/analyze stage according to an embodiment of the present invention;

5 FIG. 195 illustrates the top assignees primary class/subclass by percent of total facilitating the evaluate/analyze stage according to an embodiment of the present invention;

10 FIG. 196 illustrates the months to issue patents facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 197 is a flowchart depicting how the IPAM server works in conjunction with the months to issue patents to aid in the due diligence and negotiation stages according to an embodiment of the present invention;

15 FIG. 198 illustrates the features grouping facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 199 is a flowchart depicting how the IPAM server works in conjunction with the features grouping to aid in the due diligence and negotiation stages according to an embodiment of the present invention;

20 FIG. 200 illustrates the document annotation facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

25 FIG. 201 is a flowchart depicting how the IPAM server works in conjunction with the document annotation to aid in the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 202 illustrates the inventor patent count/assignee facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

30 FIG. 203 is a flowchart depicting how the IPAM server works in conjunction with the inventor patent count/assignee to aid in the evaluate/analyze,

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due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 204 illustrates the inventor patent count/assignee facilitating the evaluate/analyze, due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 205 illustrates the inventor patent count graph facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 206 is a flowchart depicting how the IPAM server works in conjunction with the inventor patent count graph to aid in the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 207 illustrates the inventor data facilitating the due diligence and negotiation stages according to an embodiment of the present invention;

FIG. 208 is a flowchart depicting how the IPAM server works in conjunction with the inventor data to aid in the due diligence and negotiation stages according to an embodiment of the present invention; and

FIG. 209 illustrates the topographic map facilitating the identify targets, evaluate/analyze and negotiation stages according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is related to patent-related tools, and methodologies involving those tools, for assisting in all stages of the licensing process, in the general management of a business, and in the merger and acquisition process. FIGS. 1-209 illustrate features of embodiments of the present invention. Understanding of other methodologies represented in FIGS. 1-209 (and variations and extensions thereof) will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein, and the teachings contained in the patents and pending U.S. applications cited above.

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The present invention provides patent-related tools and methodologies for the licensing process, in the general management of a business, and in the merger and acquisition process. This may be accomplished through an Intellectual Property Asset Management (IPAM) server. The functionality of the present invention that is described herein as being performed by the IPAM server, is not limited to being performed by the IPAM server. For example, tools such as Excel spreadsheets, the IBM patent server, the USPTO public server, and Manning and Napier's search tools can all be used to perform some or most of the steps of the described methodologies. It is important to note that the exact platform used to perform the methodologies herein is not critical.

The IPAM server may be used in conjunction with the tools to aid in the licensing process, in the general management of a business, and in the merger and acquisition process. For convenience, the IPAM server will briefly be discussed herein, although the invention is not limited to this brief description.

Briefly stated, the IPAM server deals with context data processing. The IPAM server may be used to define and select one or more contexts. Each context includes one or more attributes, and a plurality of data objects that satisfy the attributes. A list of data objects contained in the selected contexts may be displayed. At least some of the data objects in the selected contexts may be processed. Such processing may involve generating hierarchical and/or directed acyclic graph data structures to represent relationships among the data objects. These data structures can then be displayed in a variety of well-known techniques including but not limited to hyperbolic trees. Examples of such hierarchical or directed acyclic graph structures include claim trees, citation trees, and data object families, which may be displayed using hyperbolic trees.

In an embodiment, the contexts are groups. In another embodiment, the contexts are each associated with a data object type. In this latter embodiment, the contexts include data objects of their respective data object types.

The IPAM server also supports the generation of annotations. The IPAM server supports a plurality of annotation types, including document annotations,

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group annotations, data object type annotations, case annotations, and enterprise annotations. The IPAM server also supports form-based annotations.

5 In an embodiment, the IPAM server has a plug-in manager coupled thereto. Also included may be at least one plug-in coupled to the plug-in manager, and at least one external data processing component coupled to the plug-in. In an embodiment, the external data processing component displays data using at least graphs. In another embodiment, the external data processing component displays data using at least maps. The plug-in manager has a first application programming interface (API), and each external data processing
10 component has a second API. The plug-in translates messages from the plug-in manager to the external data processing component to a format conforming to the second API, and translates messages from the external data processing component to the plug-in manager to a format conforming to the first API.

15 Embodiments of the IPAM server can process, display, and otherwise operate with patent equivalent text files (EQV) (or other types of files or data) to aid in R&D, although the invention is not limited to this embodiment. Patent equivalent text files are described in U.S. Patent No. 5,623,681, which is herein incorporated by reference in its entirety. A patent equivalent text file includes equivalency information that establishes an equivalency relationship between the
20 text in the patent equivalent text file and the image in the patent image file. For example, this equivalency information may include pagination information that enables the patent equivalent text file to be displayed having the same pagination (line breaks, column breaks, page breaks) as the patent image file. In an embodiment, a pagination module generates the patent equivalent text file by
25 comparing the patent text in the patent text file with the patent image file to detect equivalency information. This equivalency information is then embedded in the patent equivalent text file, along with the patent text. While the pagination module is capable of performing the pagination operation automatically, in some cases some manual intervention is required. In accordance, an operator is

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sometimes involved with the pagination process performed by the pagination module.

In the present invention, the IPAM server may be used in conjunction with the tools and methodology to aid in the licensing process. FIG. 2 is an example overview of the tools that map to each stage in the licensing process (FIG. 1). The mapping provided in FIG. 2 is presented for illustration purposes only. Other uses and applications of the invention will be apparent based on the teachings contained herein. These tools or methods include (when they are incorporated with IPAM server), but are not limited to, a topographic map 202, a features grouping chart 204, a portfolio actions map 206, a technology classification 208, a Standard Industrial Codes (SIC) classification 210, a patent count per year chart 212, an application count per year chart 214, a technology by company map 216, a patent citation tree 218, a nested patent citation tree 220, a product/patent/revenue table 222, document annotation 224, an inventor table 226, a months to issue patents table 228, and a time remaining on patents table 230.

The following describes each tool or method and how it may be combined with the IPAM server to aid in the licensing process of a patent. As each of these tools or methods are described below, an exemplary graphical presentation is used. It should be noted that the particular exemplary graphical presentation used is for convenience purposes only and the invention is not limited to that particular graphical presentation. For example, a bar chart can be also implemented as a pie chart, radar or spider charts, two or three dimensional graphs, etc., and vice versa.

The same tool may be used in different ways to facilitate different stages in the licensing process. For example, the topographic map 202 (in conjunction with the IPAM server) is Tool 1 in the portfolio review stage 102, Tool 18 in the assertion analysis 104, and Tool 28 in the litigation stage. Other uses of tools will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein. The licensing process of will be described next, followed by

the general management of a business, and finally the merger and acquisition process

LICENSING

I. IPAM Server and the Topographic Map

A. The Portfolio Review Stage

5 Referring to FIG. 2, the IPAM server incorporates the topographic map 202 to facilitate the portfolio review stage 102 (as Tool 1), the negotiation stage 106 (as Tool 18), and the litigation stage 108 (as Tool 28). How the IPAM server and topographic maps are incorporated together to produce contour maps is described in detail in the commonly owned patent application, Intellectual
10 Property Asset Manager (IPAM) for Context Processing of Data Objects, invented by Rivette *et al.*, Appl. No. 09/260,079, filed: March 2, 1999, now pending (incorporated by reference in its entirety). The IPAM server and the topographic map 202 are used in a slightly different way to facilitate each of these stages. FIG. 3 illustrates the topographic map 202 facilitating the portfolio
15 review stage 102 as Tool 1, entitled "Topographic Map." As stated above, in the portfolio review stage 102, each patent in the company's portfolio is reviewed.

In FIG. 3, the topographic map 202 as Tool 1 is shown. The purpose of Tool 1 in the portfolio review stage 102 is to show the dominance of a company's portfolio and to identify whether to posture the licensing department to approach
20 infringers with a "targeted assertion" (e.g., specific patent claim-Genentech/BTG approach) or "there has to be a problem in here somewhere" (e.g., dominant portfolio-Lucent/IBM approach) capability. How the IPAM server works in conjunction with the topographic map 202 to aid in the portfolio review stage 102 is described with reference to FIG. 4.

25 In FIG. 4, a flowchart 400 begins at step 402. In step 402, in an embodiment of the present invention a user performs a search on U.S. patents to

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identify products, uses and technologies covered in the company's patent portfolio. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents (this is also true for all of the searches discussed herein). Here, the search performed is typically, but is not limited to, a boolean and/or natural language search on the product, use and/or technology to produce a group of patents that identify products, uses and/or technologies covered in the company's patent portfolio. For illustration, FIGs. 56-59 each show an exemplary screen shot of the IPAM server's user interface relating to the boolean and/or natural language search described herein. (Note that FIGs. 56-59 may also be used with the business management and merger and acquisition features of the present invention). The present invention is not limited to these exemplary screen shots. Control then passes to step 404.

In step 404, the IPAM server (or, for example, the Cartia Themescape server or some other applicable tool) is used to produce a topographic map 202 having a map with contours and labels indicating areas related to the products, uses and/or technologies searched in step 402. Here, the group of patents produced in step 402 is further divided into subgroups, with each subgroup relating to a different product, use and/or technology. Typically, this is done by the user selecting a topographic map function on the computer screen. The topographic map 202 produced by Tool 1 (FIG. 3) shows the pattern of subjects of all of the patents produced in step 402 (e.g., shows products, uses and/or technologies covered by the company's patent portfolio). Labels on the topographic map 202 indicate the products, uses and/or technologies, and the contours indicate how many U.S. patents exist for each subgroup area. The topographic map 202 shows areas people are focusing on. Control then passes to step 406.

In step 406, the user company studies the topographic map 202 produced by Tool 1 and determines whether the exact area of the product, use and/or

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technology is included in the topographic map 202. If the outcome to step 406 is positive, then control passes to step 410. Alternatively, control passes to step 408.

5 In step 408, an area related to the product, use and/or technology was not included in the topographic map 202. Here, the user can determine if another area that is shown in the topographic map 202 is worth further exploration. Control then passes to step 410.

10 In step 410, the user selects the contour (or label) of interest in the topographic map 202. This is typically done by the user "Aclicking" on the contour of interest. Control then passes to step 412.

15 In step 412, the IPAM server processes the subgroup of U.S. patents that are included in the contour of interest indicated by the user in step 410. Again, topographic map 202 is displayed with contours, but this time the topographic map 202 is more specific to exactly the user's contour (or area) of interest. Now, the topographic map 202 shows the different types of products, uses and/or technologies that are in the contour of interest. At this point, the user may use the IPAM server as described in detail in the applications and patents referenced above in the section entitled ACross-Reference to Other Patents and "Applications." Here, flowchart 400 ends.

20 B. The Negotiation Stage

25 The topographic map 202, in conjunction with the IPAM server, is also useful in the negotiation stage 106 of the licensing process. This is shown in FIG. 5 as Tool 18, and is entitled "Topographic Map." The purpose of Tool 18 is to show the other company, during negotiation, the breadth of a large portfolio so the other company is likely to take a license rather than to incur the expense of looking through the entire estate as a prelude to litigation. During a friendly negotiation, the present invention can show how the patented art under negotiation is in the "white space" or "in a distinctive area." This helps to aid in

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understanding the environment around the patented art and therefore the value of the patent under discussion.

In another embodiment of the present invention, a map produced by Cartia's ThemeScape creates conceptual visualizations of similar technologies and markets to aid in the negotiation stage 106. Here, the x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group.

How the IPAM server works in conjunction with the topographic map 202 to aid in the negotiation stage 106 is similar to how it works in the portfolio review stage 102 with reference to FIG. 4 above (Tool 1).

C. The Litigation Stage

The topographic map 202, in conjunction with the IPAM server, is also useful in the litigation stage 108 of the licensing process. This is shown in FIG. 6 as Tool 28, and is entitled "Topographic Map." The purpose of Tool 28 is to show the other company, during litigation, the breadth of a large portfolio so the other company is likely to take a license rather than to continue the expense of litigation. When using a time-slices feature, the judge of an active litigation can be shown how the defendant (the accused patent infringer) followed the plaintiff into technology and market areas, thus aiding in showing the case for treble damages.

In another embodiment of the present invention, a map produced by Cartia's ThemeScape creates conceptual visualizations of similar technologies and markets to aid in the litigation stage 108. Here, the x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group.

How the IPAM server works in conjunction with the topographic map 202 to aid in the litigation stage 108 is similar to how it works in the portfolio review stage 102 with reference to FIG. 4 above (Tool 1).

II. IPAM Server and Features Grouping

Referring to FIG. 2, the IPAM server works in conjunction with the features grouping chart 204 to facilitate the portfolio review stage 102 (as Tool 2), the negotiation stage 106 (as Tool 19) and the litigation stage 108 (as Tool 29) in the licensing process.

A. The Portfolio Review Stage

The features grouping chart 204, in conjunction with the IPAM server, is useful in the portfolio review stage 102 of the licensing process. This is shown in FIG. 7 as Tool 2 and is called "Features Grouping." The purpose of Tool 2 is to highlight the likelihood that other products and services are using the user company's patents. The products in question can quickly be passed along for further assertion analysis before approaching a potential infringer. High level trends can be seen in the features grouping chart 204 showing a tendency of a company to be possibly infringing another's patents on a broad (many patents) or narrow (few patents) scale. In addition, the features grouping chart 204 can be viewed feature-by-feature to reveal the competitive alternatives and how many products have properties that are closest to those claims of the patents owned by the user company. How the IPAM server works in conjunction with the features grouping chart 204 to aid in the licensing process as Tool 2 is described with reference to FIG. 8.

In FIG. 8, a flowchart 800 begins at step 802. In step 802, in an embodiment of the present invention a user performs a search on the groups of patents, product sheets, marketing literature, sales brochures, covering the company's own products and competitor's products and/or product attributes analyzed by reverse engineering the company's own products and competitor's products. The present invention is not limited to doing the search on this, but may include other available documents and/or attributes. Here, the search

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performed is typically a boolean and/or natural language search on product attributes which are sorted and grouped to create interactive maps of patented products and/or service features. Control passes to step 804.

5 In step 804, the IPAM server is used in conjunction with the features grouping chart 204 to create an interactive chart showing groupings of product and/or service features.

10 In step 805, the user selects the contour (or label) of interest in the feature grouping chart 204. This is typically done by the user dragging the cursor over the data of interest and "clicking" on the data set so selected. Control then passes to step 805. In step 805, a group of data of interest is selected. In step 806, this selected group is processed by the IPAM server.

B. The Negotiation Stage

15 The features grouping chart 204, in conjunction with the IPAM server, is useful in the negotiation stage 106 of the licensing process. This is shown in FIG. 9 as Tool 19 and is called "Features Grouping." The purpose of Tool 19 is to highlight the fact that another company's products or services are using the user company's patents. This aids in the quick settlement of an infringement presumption and furthers licensing negotiation. The features grouping chart 204 created by Tool 19 also shows high level trends showing a tendency of the other
20 company to be infringing the user company's patents on a broad (many patents) or narrow (few patents) scale. This aids in coming to a quick settlement between the two companies. In addition, the features grouping chart 204 can be viewed feature-by-feature to show the other company how their products contain the feature sets covered by the user company's patents, and thus may possibly
25 infringe the user company's patents. This aids in the negotiation of the licensing of one or more of the company's patents.

How the IPAM server works in conjunction with the features grouping chart 204 to aid in the negotiation stage 106 is similar to how it works in the

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portfolio review stage 102, as described above with reference to FIG. 8 above (Tool 2).

C. The Litigation Stage

5 The features grouping chart 204, in conjunction with the IPAM server, is useful in the litigation stage 108 of the licensing process. This is shown in FIG. 10 as Tool 29 and is called "Features Grouping." The purpose of Tool 29 is to highlight for the judge, during litigation, the fact that the other company's products or services are using the company's patents. This aids in the quick settlement of an infringement presumption. The features grouping chart 204 also 10 shows high level trends showing a tendency of the other company to be infringing the company's patents on a broad (many patents) or narrow (few patents) scale. This aids in coming to a quick settlement between the two companies of a litigation matter. In addition, the features grouping chart 204 can be viewed feature-by-feature to show the judge how the other party's products contain 15 feature sets covered by the company's patents.

How the IPAM server works in conjunction with the features grouping chart 204 to aid in the litigation stage 108 is similar to how it works in the portfolio review stage 102, with reference to FIG. 8 above (Tool 2).

III. IPAM Server and Portfolio Actions Map

20 Referring to FIG. 2, the IPAM server works in conjunction with the portfolio actions map 206 to facilitate the portfolio review stage 102 (as Tool 3). The portfolio actions map 206, in conjunction with the IPAM server, is useful in the portfolio review stage 102 of the licensing process. This is shown in FIG. 11 as Tool 3 and is called "Portfolio Action Map." In general, the portfolio actions 25 map 206 shows a decision model for the user company's patent portfolio. The purpose of Tool 3 is to allow a small team of people in the company to

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immediately assign patents to a specific course of action. Tool 3 allows the team to make these assignments in a fraction of the time it would take using traditional means, namely analyzing the paper versions of the patents by a few individuals. How the IPAM server works in conjunction with the portfolio actions map 206 to aid in the licensing process as Tool 3 is described with reference to FIG. 12.

In FIG. 12, a flowchart 1200 begins at step 1202. In step 1202, in an embodiment of the present invention a user performs a search on the company's patents. Control passes to step 1204.

In step 1204, the patents in the resulting group from step 1202 are further divided into subgroups by which type of business the patent pertains to. Control then passes to step 1206.

In step 1206, each subgroup of patents from step 1204 is further divided into subgroups by business unit and/or corporate direction. At this point, the IPAM server is used in conjunction with the portfolio actions map 206 to create a chart assigning each company patent to a specific course of action. Flowchart 1200 ends at this point.

IV. IPAM Server and Technology Classification

Referring to FIG. 2, the IPAM server works in conjunction with the technology classification 208 to facilitate the portfolio review stage 102 (as Tool 4), the negotiation stage 106 (as Tool 20), and the litigation stage (as Tool 30). In general, the technology classification 208 indicates what technologies are in a patent portfolio.

A. The Portfolio Review Stage

FIG. 13 illustrates the technology classification 208 facilitating the portfolio review stage 102 as Tool 4, entitled "Technology Classification." The purpose of Tool 4 in the portfolio review stage 102 provide the user or company

with a visual indication of their core technologies, indicating which technologies are well-covered and which technologies are sparsely-covered. Comparing the technology classification 208 to the strategic intent of the company identifies technologies that the research and development department may choose to focus upon to make them more robust. Also, the technology classification 208 tells the company which patents or technologies to license out because they are not strategic to the company. How the IPAM server works in conjunction with the technology classification 212 to aid in the portfolio review stage 102 is described with reference to FIG. 14.

In FIG. 14, a flowchart 1400 begins at step 1402. In step 1402, in an embodiment of the present invention a user performs a search on the group of all company patents. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 1404.

In step 1404, the IPAM server takes the group of patents produced in step 1402 and further divides it into subgroups, with each subgroup having the same technology classification. When the search in step 1402 is on the group of U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in step 1402 is on the group of International patents, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification (or IPC classification) a meta-data field that will also need to be searched to determine the technology classification, but is not limited to this. Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to U.S. Patent Classifications are shown in FIGs. 78-90. (Note that FIGs. 78-90 may also be used with the business management and merger and acquisition features of the present invention). The present invention

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is not limited to these exemplary user interfaces. Control then passes to step 1406.

In step 1406, the IPAM server is used in conjunction with a technology classification 208 to create a graphical representation of similar technologies. Typically, this is done by the user selecting a technology classification function on the computer screen. The technology classification 208 produced by Tool 4 (FIG. 13) shows the diverse technologies (via U.S. Patent Classifications) that the company's patents cover. The graphical representation in FIG. 13 is a pie chart, which was created using Excel, but is not limited to Excel. In fact, the present invention is not limited to using a pie chart, but could also use radar or spider charts, two or three dimensional graphs, etc.

Referring to FIG. 13, the U.S. Patent Classification 395 represents the most common type of technology that is covered by the company's patents. Therefore, the technology included in U.S. Patent Classification 395 is well-covered by the company's patents. In contrast, the technology included in U.S. Patent Classification 369 is sparsely-covered by the company's patents.

B. The Negotiation Stage

FIG. 15 illustrates the technology classification 208 facilitating the negotiation stage 106 as Tool 20, entitled "Technology Classification." The purpose of Tool 20 in the negotiation stage 106 is to show what technologies are in the other company's patent portfolio. This gives the other company a visual indication of their core technologies, and how taking a license to the user company's patents will improve the scope of their coverage. When negotiations are unfriendly, Tool 20 can be used to show the scope of the user company's patents in particular technology areas, implying the commitment the user company has to enforcing its rights in these areas. How the IPAM server works in conjunction with the technology classification 212 to aid in the negotiation stage 106 is similar to how it is done in the portfolio review stage 102, as described above with reference to FIG. 14.

C. The Litigation Stage

FIG. 16 illustrates the technology classification 208 facilitating the litigation stage 108 as Tool 30, entitled "Technology Classification." The purpose of Tool 30 in the litigation stage 108 is show what technologies are in the user company's (or licensing company's) patent portfolio. This gives the other company a visual indication of their core technologies, and how taking a license to the user company's patents will improve the scope of their coverage. When negotiations are unfriendly, Tool 30 can be used to show the scope of the user company's patents in particular technology areas, implying the commitment the user company has to enforcing its rights in these areas. How the IPAM server works in conjunction with the technology classification 212 to aid in the litigation stage 108 is similar to how it is done in the portfolio review stage 102, as described above with reference to FIG. 14.

V. IPAM Server and Standard Industrial Codes (SIC) Classification

Referring to FIG. 2, the IPAM server works in conjunction with the SIC classification 210 to facilitate the portfolio review stage 102 (as Tool 5), the negotiation stage 106 (as Tool 21), and the collection stage (as Tool 37). In general, the SIC classification 210 indicates what markets may be covered by a patent portfolio.

A. The Portfolio Review Stage

FIG. 17 illustrates the SIC classification 210 facilitating the portfolio review stage 102 as Tool 5, entitled "SIC Classification." The purpose of Tool 5 in the portfolio review stage 102 is to inform the user company what markets (or industries) are currently and potentially interested in the company's patent portfolio. In addition, Tool 5 identifies the scope and magnitude of potential

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infringers and licensees of the user company's patents. The Tools described in this section (Section V) can easily be modified to allow the user to define the industry by companies by plotting the U.S. patent classification for that industry (e.g., SIC classification). How the IPAM server works in conjunction with the SIC classification 210 to aid in the portfolio review stage 102 is described with reference to FIG. 18.

In FIG. 18, a flowchart 1800 begins at step 1802. In step 1802, in an embodiment of the present invention a user performs a search on the group of all patents and/or applications owned by the user company and/or of interest to the user company. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 1804.

In step 1804, the IPAM server takes the group of patents produced in step 1802 and further divides it into subgroups, with each subgroup having the same technology classification. When the search in step 1802 is on U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in step 2102 is on the International patents and applications, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification and IPC classification each as a meta-data field that will also need to be searched to determine the technology classification, but is not limited to this. Control then passes to step 1806.

In step 1806, each U.S. and IPC classification determined by step 1804 is mapped (e.g., via a look-up table in excel) to its related SIC classification. Control then passes to step 1808.

In step 1808, the excel software server is used in conjunction with a SIC classification 210 to create a graphical representation of similar industrial markets. Typically, this is done by the user selecting a SIC classification function

on the computer screen. The SIC classification 210 produced by Tool 5 (FIG. 17) shows the diverse markets (via SIC Classifications) that apply to the user company's patents. The graphical representation in FIG. 17 is a pie chart. The present invention is not limited to using a pie chart.

5 Referring to FIG. 17, the SIC classification 210 represents the most common market or industry that the patents are related to. SIC classification codes are provided by the U.S. Department of Commerce.

B. The Negotiation Stage

10 FIG. 19 illustrates the SIC classification 210 facilitating the negotiation stage 106 as Tool 21, entitled "SIC Classifications." The purpose of Tool 21 in the negotiation stage 106 is to inform the user company what markets (or industries) are currently and potentially interested in the company's patent portfolio. In addition, Tool 21 identifies specific companies to approach for licensing the user company's patents. How the IPAM server works in conjunction
15 with the SIC classification 210 to aid in the negotiation stage 106 is similar to the portfolio review stage 102, as described above with reference to FIG. 18.

C. The Collection Stage

20 FIG. 20 illustrates the SIC classification 210 facilitating the collection stage 110 as Tool 37, entitled "SIC Classifications." The purpose of Tool 37 in the collection stage 110 is identify the changing market size (i.e., revenue streams) associated with the licensed technology. Tool 37 shows the size of the markets and when Tool 37 is utilized each quarter/year, the change in size indicates the possibility of a change in licensing revenues due the user company. How the IPAM server works in conjunction with the SIC classification 210 to aid
25 in the collection stage 110 is similar to the portfolio review stage 102, as described above with reference to FIG. 18. One exception is that the size of the

pie chart created by Tool 37 is created by the market size of the companies reported in each SIC code rather than the number of patents/references.

VI. IPAM Server and Patent Count Per Year

Referring to FIG. 2, the IPAM server works in conjunction with the patent count per year 212 to facilitate the assertion analysis stage 104 (as Tool 12) and the litigation stage 108 (as Tool 31). In general, the patent count per year 212 illustrates how fast product/use technology is changing.

A. The Assertion Analysis Stage

FIG. 21 illustrates the count per year 212 facilitating the assertion analysis stage 104 as Tool 12, entitled "Patent Count." (Note that Tool 12 is not concerned with any particular year). The purpose of Tool 12 in the assertion analysis stage 104 is to identify companies whose products should be scrutinized by data sheet and reverse engineering analysis for possible infringement of the user company's patents. Tool 12 identifies who has technology and therefore is likely to have existing or older products in the same area as the user company. How the IPAM server works in conjunction with the patent count per year 212 to aid in the assertion analysis stage 104 is described with reference to FIG. 22.

In FIG. 22, a flowchart 2200 begins at step 2202. In step 2202, in an embodiment of the present invention a user performs a search on the group of U.S. patents, foreign patents, and/or international patents. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 2204.

In step 2204, the group of patents that results from step 2202 is further divided into subgroups by assignee/company. Exemplary screen shots of the user

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interface relating to searching patents by the same assignee are shown in FIGs. 60-63. (Note that FIGs.60-63 may also be used with the business management and merger and acquisition features of the present invention). The present invention is not limited to these exemplary user interfaces. Control then passes to step 2206.

In step 2206, the IPAM server is used in conjunction with patent count per year 212 to create a chart that indicates the top assignees/companies in a related area to the product, use and/or technology searched in step 2202. Here, the group of patents produced in step 2202 may be further divided into subgroups, with each subgroup having patents that were issued in the same year and relate to the idea (does not apply to the exemplary chart shown in FIG. 21). Note that if year is not applicable to the desired chart to be produced, then this step is eliminated. Typically, step 2204 is initiated by the user selecting a patent count per year function on the computer screen. At this point flowchart 2200 ends.

B. The Litigation Stage

FIG. 23 illustrates the count per year 212 facilitating the litigation stage 108 as Tool 31, entitled "Patent Count/Year." The purpose of Tool 31 in the litigation stage 108 is to identify companies who had the competence to knowingly commercialize infringing products and thus may be liable for treble damages. Tool 31 also identifies who has continuously developed the technology. How the IPAM server works in conjunction with the patent count per year 212 to aid in the litigation stage 108 is similar to the assertion analysis stage 104, as described above with reference to FIG. 22. One exception is that the graphic produced is created from not only idea/data, but also the year the patent was filed.

VII. IPAM Server and Application Count Per Year

Referring to FIG. 2, the IPAM server works in conjunction with the application count per year 214 to facilitate the assertion analysis stage 104 (as Tool 13) and the negotiation stage 106 (as Tool 22). In general, the application count per year 214 illustrates what other companies are active in the project area.

5 A. The Assertion Analysis Stage

FIG. 24 illustrates the application count per year 214 facilitating the assertion analysis stage 104 as Tool 13, entitled "Application Count." (Note that Tool 13 is not concerned with any particular year). The purpose of Tool 13 in the assertion analysis stage 104 is to identify companies whose new and recently announced products should be scrutinized by data sheet and reverse engineering analysis for possible infringement of the user company's patents. Tool 13 identifies who has filed applications for each technology and therefore is likely to have new or about-to-be-launched products in the same area as the user company. How the IPAM server works in conjunction with the application count per year 214 to aid in the assertion analysis stage 104 is described with reference to FIG. 25.

In FIG. 25, a flowchart 2500 begins at step 2502. In step 2502, in an embodiment of the present invention a user performs a search on the group of published patent applications, but is not limited to this. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but again is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of published applications. Control passes to step 2504.

In step 2504, the group of published applications that results from step 2502 is further divided into subgroups by assignee/company. Control then passes to step 2506.

In step 2506, the IPAM server is used in conjunction with application count per year 214 to create a chart that indicates the top assignees/companies in

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a related area to the product, use and/or technology searched in step 2502. Here, the group of patents produced in step 2502 may be further divided into subgroups, with each subgroup having published applications filed in the same year and relate to the idea (does not apply to the exemplary chart shown in FIG. 24). Note
5 that if year is not applicable to the desired chart to be produced, then this step is eliminated. Typically, step 2504 is initiated by the user selecting an application count per year function on the computer screen. At this point flowchart 2500 ends.

B. The Negotiation Stage

10 FIG. 26 illustrates the application count per year 214 facilitating the negotiation stage 106 as Tool 22, entitled "Application Count/Year." The purpose of Tool 22 in the negotiation stage 106 is to identify companies whose possible interest in the technology area will be set-back by another company taking a license from the user company (licensing company). Tool 22 also
15 identifies who has filed applications for each technology and therefore is likely to have new or about-to-be-launched products in the same area as the user company. How the IPAM server works in conjunction with the application count per year 214 to aid in the negotiation stage 106 is similar to the assertion analysis stage 104, as described above with reference to FIG. 25. One exception
20 is that the graphic produced is created from not only the idea/data, but also the year the application was filed.

VIII. IPAM Server and Technology by Company Map

Referring to FIG. 2, the IPAM server works in conjunction with the technology by company map 216 to facilitate the portfolio review stage 102 (as Tool 6), the assertion analysis stage 104 (as Tool 14), and the litigation stage (as Tool 32).

A. The Portfolio review stage

FIG. 27 illustrates the technology by company map 216 facilitating the portfolio review stage 102 as Tool 6, entitled "Technology by Company Map." The purpose of Tool 6 in the portfolio review stage 102 is to identify, for the portfolio team, if there is a single company, a few companies, or many companies that would may be likely license candidates for each area of the user company's portfolio. In addition, the graph created by Tool 6 shows which patent classifications (technical areas) have been pursued by what companies. How the IPAM server works in conjunction with the technology by company map 216 to aid in the portfolio review stage 102 is described with reference to FIG. 28.

In FIG. 28, a flowchart 2800 begins at step 2802. In step 2802, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 2804.

In step 2804, the IPAM server takes the group of patents produced in step 2802 and further divides it into subgroups, with each subgroup having the same patent classification. When the search in step 2802 is on the group of U.S.

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patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in step 2802 is on the group of International patents, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification (or IPC classification) in a meta-data field that will also need to be searched to determine the patent classification, but is not limited to this. Control then passes to step 2806.

In step 2806, each subgroup produced in step 2804 is further divided by assignee/company. Thus, the IPAM server is used in conjunction with a technology by company map 216 to create a graphical representation of company and technical area by frequency. Typically, this is done by the user selecting a technology by company function on the computer screen. The flowchart 2800 ends at this point.

Referring again to FIG. 27, the chart produced by Tool 6 tells the user several things. First, it shows that companies like AT&T Bell Laboratories and International Business Machines Corporation are active in the area of the idea but have a broader set of activity (as represented by several patents in several different patent classifications) and therefore may be interested in licensing other patents in similar areas. Companies, like Westinghouse Electric Corporation, appear to be targeting specific areas (as represented by many patents in one patent classification). Therefore, Westinghouse Electric Corporation may not be as willing to license a patent in the same specific area.

B. The Assertion Analysis Stage

FIG. 29 illustrates the technology by company map 216 facilitating the assertion analysis stage 104 as Tool 14, entitled "Technology by Company Map." The purpose of Tool 14 in the assertion analysis stage 104 is to identify for the assertion team companies whose products are likely being made by similar means and for which manufacturing drift might lead to infringement. Here, the user

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company may want to reverse engineer those products of other companies to determine whether the products are infringing one or more of the user company's patents. How the IPAM server works in conjunction with the technology by company map 216 to aid in the assertion analysis stage 104 is similar to the portfolio review stage 102, as described above with reference to FIG. 28.

C. The Litigation Stage

FIG. 30 illustrates the technology by company map 216 facilitating the litigation stage 108 as Tool 32, entitled "Technology by Company Map." The purpose of Tool 32 in the litigation stage 108 is to identify for the litigation team and judge those technical areas which are clearly the domain of the plaintiff (user company). The graph created by Tool 32 aids in showing the judge that those patent classifications (technical areas) under dispute have not been claimed or pursued by the defendant. How the IPAM server works in conjunction with the technology by company map 216 to aid in the litigation stage 108 is similar to the portfolio review stage 102, as described above with reference to FIG. 28.

IX. IPAM Server and Patent Citation Tree

Referring to FIG. 2, the IPAM server works in conjunction with the patent citation tree 218 to facilitate the portfolio review stage 102 (as Tool 7), the assertion analysis stage 104 (as Tool 15), the negotiation stage 106 (as Tool 23) and the litigation stage 108 (as Tool 33). Citation trees are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." In general, during the licensing process, the user company can look at the patent citation tree 218 to decide how crowded the area is and how quickly it is moving (note that the icons can display dates relevant to the patents in the tree). The invention automatically displays hierarchy maps that connect patents having similar cited references upon user

command. In the map, the greatest gradient represents highest change and so you can use that as a way to plot the velocity in different directions. Dates may be shown in the nodes of the tree. In this case, for example, the contour lines can show the time line for the subject areas, and how fast they are developing.

5 A. The Portfolio Review Stage

FIG. 31 illustrates the patent citation tree 218, used in the portfolio review stage 102, as Tool 7, entitled "Patent Citation Tree." The purpose of Tool 7 in the portfolio review stage 102 is to provide information to the portfolio team, such that at a glance, the portfolio team can see if other companies are focused in a specific effort to work in just one branch of the technology, or are working in many areas. Companies working in many areas will be good candidates for an assertion and license out analysis. The citation tree produced by Tool 7 shows how unique, mature, expansive, and inner-related the technology is that stems from the patent being evaluated. When dates are put in the nodes of the citation tree it also shows the portfolio team how fast moving the various branches of the tree are growing. How the IPAM server works in conjunction with the patent citation tree 218 to aid in the portfolio review stage 102 is described with reference to FIG. 32.

20 In FIG. 32, a flowchart 3200 begins at step 3202. In step 3202, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 3204.

In step 3204, the IPAM server takes the group of patents produced in step 3202 and further performs a forward citation on each of the patents, that has the same patent class (technology area) of the user company, to create a patent citation tree 218. Forward citations are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." The nodes in the patent citation tree 218 may be color coded by assignee to allow the user to pick out color patterns easily. The flowchart 3200 ends at this point.

B. The Assertion Analysis Stage

FIG. 33 illustrates the patent citation tree 218, used in the assertion analysis stage 104, as Tool 15, entitled "Patent Citation Tree." The purpose of Tool 15 in the assertion analysis stage 104 is to provide information to the assertion team, such that at a glance, the assertion team can identify other companies whose products are likely being made by similar means and for which manufacturing drift or inadvertent design decisions might lead to infringement. These companies' products should be reversed engineered to check for possible infringement. In addition, the patent citation tree 218 produced by Tool 15 shows which companies are pursuing similar technology.

How the IPAM server works in conjunction with the patent citation tree 218 to aid in the assertion analysis stage 104 is similar to the portfolio review stage 102, as described above with reference to FIG. 32. Here, the forward citation analysis is run for each patent produced by step 3202.

C. The Negotiation Stage

FIG. 34 illustrates the patent citation tree 218, used in the negotiation stage 106, as Tool 23, entitled "Patent Citation Tree." The purpose of Tool 23 in the negotiation stage 106 is to provide information to the negotiation team, such

that at a glance, the negotiation team can identify how fast the technical area is moving and how many companies are involved in the technical area. In addition, Tool 23 visually shows the uniqueness of the patent under discussion, and from the richness of the patent citation tree 218, how valuable the patent is. For example, when the nodes of the patent citation tree 218 are color coded for right-to-practice (indicating patents that a company may need to license to continue to make, use, and/or sell a product or process) it visually reinforces the value of the patent under discussion for negotiation purposes. Also, the patent citation tree 218 produced by Tool 23 shows which companies are pursuing similar technology.

How the IPAM server works in conjunction with the patent citation tree 218 to aid in the negotiation stage 106 is similar to the portfolio review stage 102, as described above with reference to FIG. 32. Here, a forward citation analysis is run for each patent under negotiation.

D. The Litigation Stage

FIG. 35 illustrates the patent citation tree 218, used in the litigation stage 108, as Tool 33, entitled "Patent Citation Tree." The purpose of Tool 33 in the litigation stage 108 is show, when the nodes in the patent citation tree 218 are color coded for right-to-practice (red-yellow-green), which companies must take a license to the user company's patent. Tool 33 provides a powerful visualization tool for the litigation team. It illustrates to a judge the depth of analysis and the value of the patent under discussion. Tool 33 further shows which companies are free to practice and which are not free to practice the art or technology in question.

How the IPAM server works in conjunction with the patent citation tree 218 to aid in the litigation stage 108 is similar to the portfolio review stage 102, as described above with reference to FIG. 32. Here, a forward citation analysis is run for each patent under litigation.

X. IPAM Server and Nested Patent Citation Tree

Referring to FIG. 2, the IPAM server works in conjunction with the nested patent citation tree 220 to facilitate the assertion analysis stage 104 (as Tool 16) and the negotiation stage 106 (as Tool 24). Nested patent citation trees are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." In general, during the licensing process, the user company can look at the nested patent citation tree 220 to predict related technology/markets under exploration by other companies. Patents lag the technology due to the inherent delays in patent prosecution. Thus, if the user finds a very recent patent, it may not have any forward citations since any patents that might cite it are months or years away from issuing. Thus, it would not be possible to see how the technology is developing relative to this patent since it has no forward citations.

This tool utilizes a technique that involves going back one or more generations from a given patent, and then performing forward citations on the prior generations. This identifies a patent family that is a result of a unique combination of backwards and forwards citation processing. The resulting tree tells you who's playing and in what fields that's probably around the base patent. It's an approach to look into the future of a given technology (how the technology may develop in the future). Date contours (or contours according to some other criteria) is also applicable with this tool (and with all hyperbolic trees generated by the invention).

A. The Assertion Analysis Stage

FIG. 36 illustrates the nested patent citation tree 220, used in the assertion analysis stage 104, as Tool 16, entitled "Nested Patent Citation-Tree." The purpose of Tool 16 in the assertion analysis stage 104 is to provide information to the assertion team so that it knows early on other companies' possible activities

that might be using, or have use for, the user company's patented art. In addition Tool 16 produces a nested patent citation tree 220 that shows on which companies the competitive intelligence team should do a preliminary investigation on for possible infringing products and services. How the IPAM server works in conjunction with the nested patent citation tree 220 to aid in the assertion analysis stage 104 is described with reference to FIG. 37.

In FIG. 37, a flowchart 3700 begins at step 3702. In step 3702, in an embodiment of the present invention a user performs a search on the group of the user company's patents that address the user company's fastest moving technology areas. These patents may include U.S., European, and Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 3704.

In step 3704, the IPAM server determines the prior generation patent of each patent produced in step 3702 (e.g., goes back one citation for each patent). Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to backward citation are shown in FIGs. 68-72. (Note that FIGs. 68-72 may also be used with the business management and merger and acquisition features of the present invention). The present invention is not limited to these exemplary user interfaces. Control passes to step 3706.

In step 3706, the IPAM server takes the group of patents produced in step 5002 and further performs three forward citations on each of the patents to create a nested patent citation tree 220. The nodes in the patent citation tree 224 may be color coded by assignee to allow the user to pick out color patterns easily. Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to forward citation are shown in FIGs. 73-77. (Note that FIGs. 73-77 may also be used with the business management and merger and acquisition features of the present invention). The present invention is not limited to these exemplary user interfaces. The flowchart 3700 ends at this point.

B. The Negotiation Stage

FIG. 38 illustrates the nested patent citation tree 220, used in the negotiation stage 106, as Tool 24, entitled "Nested Patent Citation-Tree." The purpose of Tool 24 in the negotiation stage 106 is to provide information to the company taking the license whether or not that company may have an opportunity to sub-license further or not. This information is likely to mitigate or influence the value paid for the license to the patent. In addition, the nested patent citation tree 220 produced by Tool 24 shows other companies that might be interested in a sub-license of the patent. How the IPAM server works in conjunction with the nested patent citation tree 220 to aid in the negotiation stage 106 is similar to the assertion analysis stage 104, as described above with reference to FIG. 37. Here, the nested patent citation tree 220 is created for the patented art under negotiation.

XI. IPAM Server and Product/Patent/Revenue Table

In FIG. 39, the IPAM server works in conjunction with the product/patent/revenue table 222 to facilitate the portfolio review stage 102 (as Tool 8). FIG. 39 illustrates the product/patent/revenue table 222, used in the portfolio review stage 102, as Tool 8, entitled "Product/Patent/Revenue Table." The purpose of Tool 8 is to allow the portfolio team see at a glance which patents are protecting the user company's revenue streams and which are not. Those not protecting revenue for the user company may be subject to a decision to license out, donate, or abandon. In general, the product/patent/revenue table 222 produced by Tool 8 shows for each patent how much of the company's sales revenue is being covered. How the IPAM server works in conjunction with the product/patent/revenue table 222 to aid in the portfolio review stage 102 is described with reference to FIG. 40.

In FIG. 40, a flowchart 4000 begins at step 4002. In step 4002, in an embodiment of the present invention a user performs a search on the group of

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company documents and patents, but is not limited to this. This typically involves a boolean and/or natural language search on the product, use and/or technology to produce a group of documents and patents. Control passes to step 4004.

5 In step 4004, the IPAM server integrates financial information from the user company's book, with its manufacturing tracking system, and each patent (produced from step 4002) to produce the product/patent/revenue table 222. At this point, flowchart 4000 ends.

XII. IPAM Server and Document Annotation

10 Referring to FIG. 2, the IPAM server works in conjunction with the document annotation 224 to facilitate the portfolio review stage (as Tool 9), the assertion analysis stage 104 (as Tool 17), the negotiation stage 106 (as Tool 25), and the litigation stage 108 (as Tool 34). Document annotation by IPAM server is described in detail in the patent and applications referenced above in the section
15 entitled "Cross-Reference to Other Patents and Applications." In general, the user company can utilize the document annotation 224 to help create a document trail to help expedite stages of the licensing process.

A. The Portfolio Review Stage

20 FIG. 41 illustrates the document annotation 224, used in the portfolio review stage 102, as Tool 9, entitled "Document Annotation." The purpose of Tool 9 in the portfolio review stage 102 is to allow members of the portfolio review team to annotate patents and corporate documents during meeting in real-time. In addition, pre-meeting recorded, indexed knowledge can be used to expedite patent portfolio review meetings. These annotations document how each
25 patent and/or trade secret fits into the overall portfolio of the user company. How

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the IPAM server works in conjunction with the document annotation 224 to aid in the portfolio review stage 102 is described next with reference to FIG. 42.

In FIG. 42, a flowchart 4200 begins at step 4202. In step 4202, in an embodiment of the present invention a user performs a search on the groups of patents and corporate documents, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents and/or corporate documents. Control passes to step 4204.

In step 4204, IPAM server allows the user to make annotations on one or more of the patents and/or corporate documents in the group produced by step 4202. Flowchart 4200 ends at this point.

B. The Assertion Analysis Stage

FIG. 43 illustrates the document annotation 224, used in the assertion analysis stage 104, as Tool 17, entitled "Document Annotation." The purpose of Tool 17 in the assertion analysis stage 104 is to allow, during assertion analysis, the individual analysts and the team to make real-time annotations on the patents and corporate documents (including company and outside information sources like the Web). These annotations document how each patent may be related to the data sheet, press releases, and reverse engineering reports of possible infringers. The indexed knowledge is used to expedite individual assertion analysis activities as well as the efficiency of the assertion team's review meetings.

How the IPAM server works in conjunction with the document annotation 224 to aid in the assertion analysis stage 104 is similar to the portfolio review stage 102, as described above with reference to FIG. 42.

C. The Negotiation Stage

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FIG. 44 illustrates the document annotation 224, used in the negotiation stage 106, as Tool 25, entitled "Document Annotation." The purpose of Tool 25 in the negotiation stage 106 is to allow, during the license negotiation, the individual analysts and the team to make real-time annotations on the patents and corporate documents (including company and outside information sources like the Web). These annotations document how each patent may be related to other elements of the negotiation process. The indexed knowledge is used to expedite the negotiation as well as the efficiency of the negotiation meetings.

How the IPAM server works in conjunction with the document annotation 224 to aid in the negotiation stage 106 is similar to the portfolio review stage 102, as described above with reference to FIG. 42.

D. The Litigation Stage

FIG. 45 illustrates the document annotation 224, used in the litigation stage 108, as Tool 34, entitled "Document Annotation." The purpose of Tool 34 in the litigation stage 108 is to allow, during the patent litigation, the individual analysts and the team to make real-time annotations on the patents and corporate documents (including company and outside information sources like the Web). These annotations document how each patent may be related to other elements of the litigation process. The indexed knowledge is used to expedite the litigation as well as react to new elements surfacing during the proceedings.

How the IPAM server works in conjunction with the document annotation 224 to aid in the litigation stage 108 is similar to the portfolio review stage 102, as described above with reference to FIG. 42.

XIII. IPAM Server and Inventor Table

Referring to FIG. 2, the IPAM server works in conjunction with the inventor table 226 to facilitate the negotiation stage 106 (as Tool 26) and the

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litigation stage 108 (as Tool 35). In general, the inventor table 226 identifies leading inventors in different technologies or fields.

A. The Negotiation Stage

FIG. 46 illustrates the inventor table 226, used in the negotiation stage 106, as Tool 26, entitled "Inventors." The purpose of Tool 26 in the negotiation stage 106 is to identify, for the negotiation team, key people to ascertain whether or not they will be available for technology transfer. The availability of these key people affect the value of the art under discussion. How the IPAM server works in conjunction with the inventor table 226 to aid in the licensing process is described next with reference to FIG. 47.

In FIG. 47, a flowchart 4700 begins at step 4702. In step 4702, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on the technology/art to produce a group of patents. Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to inventors are shown in FIGs. 64-67. (Note that FIGs. 64-67 may also be used with the business management and merger and acquisition features of the present invention). The present invention is not limited to these exemplary user interfaces. Control passes to step 4704.

In step 4704, the IPAM server generates an inventor table 226 that indicates the top inventors in a related area to the technology searched in step 4702. Here, the group of patents produced in step 4702 are further subdivided into subgroups, with each subgroup having the same inventor. As with assignee information, the IPAM server may store the inventor information of patents in a

meta-data field that will also need to be searched to determine the inventor information, but is not limited to this.

Typically, step 4704 is initiated by the user selecting a top inventor function on the computer screen. The top inventor table 226, produced in conjunction with the IPAM server and Tool 26 (FIG. 46), shows the quality and variety of top inventors who are also active in areas surrounding the technology. At this point flowchart 4700 ends.

Once the group of patents (from the search in step 4702) is divided into subgroups (in step 4704), the user may also use Tool 18 to produce the topographic map 202 (to indicate the companies each inventor has worked for).

B. The Litigation Stage

FIG. 48 illustrates the inventor table 226, used in the litigation stage 108, as Tool 35, entitled "Inventors." The purpose of Tool 35 in the litigation stage 108 is to identify, for the litigation team, key people to check out ahead of time for their background and opinions on the validity of the case. Tool 35 also indicates the inventors who could be involved in the litigation proceeding, including being an expert witness for one of the parties. How the IPAM server works in conjunction with the inventor table 226 to aid in the litigation stage 108 is similar to the negotiation stage 106, as described above with reference to FIG. 47.

XIV. IPAM Server and Patent/Months to Issue Chart

Referring to FIG. 2, the IPAM server works in conjunction with the patent/months to issue chart 228 to facilitate the portfolio review stage 102 (as Tool 10) and the negotiation stage (as Tool 27). In general, during the licensing process, the user company can look at the patent/months to issue chart 228 to determine the average time that competitor's patents are in prosecution. Patents

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lag the technology due to the inherent delays in patent prosecution. Delays in prosecution may be different for different technologies. Therefore, the user can also use the patent/months to issue chart 228 to get an idea on the prosecution time for different technologies. This also can help to predict the pace of certain technologies and what competitors are working on in their labs.

A. The Portfolio Review Stage

FIG. 49 illustrates the patent/months to issue chart 228, used in the portfolio review stage 102, as Tool 10, entitled "Months to Issue Patents." The purpose of Tool 10 in the portfolio review stage 102 is to provide information to the portfolio team so that it understands the timing risk of using U.S. Patent and Trademark Office databases, and can modify its decisions in the portfolio review stage 102 accordingly. The patent/months to issue chart 228 shows average time patents in each technology area are hidden from the portfolio team's view. How the IPAM server works in conjunction with the patent/months to issue chart 228 to aid in the portfolio review stage 102 is described next with reference to FIG. 50.

In FIG. 50, a flowchart 5000 begins at step 5002. In step 5002, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a technical area. Control passes to step 5004.

In step 5004, the IPAM server sorts the patents in the resulting group from step 5002 by year to create subgroups of patents and export to Excel. Control passes to step 5006.

In step 5006, the Excel software, for each patent in each of the subgroups created in step 5004, subtracts the patent's issue date from its filing date. Control then passes to step 5008.

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In step 5008, the Excel software calculates, for each subgroup of patents, the average prosecution time for its patents and displays the results to the user. Flowchart 5000 ends at this point.

5 B. The Negotiation Stage

FIG. 51 illustrates the patent/months to issue chart 228, used in the negotiation stage 106, as Tool 27, entitled "Months to Issue Patents." The purpose of Tool 27 in the negotiation stage 106 is to provide information to the negotiation team so that it can ask about the art in prosecution and modify its stance and decisions accordingly. Tool 27 also produces the patent/months to issue chart 228 to show average time patents in each technology area are hidden from the negotiation team's view. How the IPAM server works in conjunction with Excel the patent/months to issue chart 228 to aid in the negotiation stage 106 is similar to the portfolio review stage 102, as described above with reference to FIG. 50.

XV. IPAM Server and Time Remaining on Patents Chart

Referring to FIG. 2, the IPAM server works in conjunction with the time remaining on patents chart 230 to facilitate the portfolio review stage 102 (as Tool 11), the litigation stage 108 (as Tool 36) and the collection stage 110 (as Tool 38). In general, during the licensing process, the user company can look at the time remaining on patents chart 230 to see how long the company's art is protected by patents.

A. The Portfolio Review Stage

FIG. 52 illustrates the time remaining on patents chart 230, used in the portfolio review stage 102, as Tool 11, entitled "Time Remaining on Patents."

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The purpose of Tool 11 in the portfolio review stage 102 is to show the portfolio team which technologies are growing and therefore worthy of investment versus technologies that are static and therefore not as worthy of investment. Tool 11 produces the time remaining on patents chart 230 showing the age of each of the company's patents. How the IPAM server works in conjunction with the time remaining on patents chart 230 to aid in the portfolio review stage 102 is described next with reference to FIG. 53.

In FIG. 53, a flowchart 5300 begins at step 5302. In step 5302, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the user company. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a technical area. Control passes to step 5304.

In step 5304, the IPAM server sorts the patents in the resulting group from step 5302 by years to expire. Typically, step 5304 is initiated by the user selecting a time remaining on patents function on the computer screen. At this point flowchart 5300 ends.

B. The Litigation Stage

FIG. 54 illustrates the time remaining on patents chart 230, used in the litigation stage 108, as Tool 36, entitled "Time Remaining on Patents." The purpose of Tool 36 in the litigation stage 108 is to illustrate to a judge the time remaining on a patent (remaining patent term). This helps to aid the judge in determining damages. By using Tool 36, the judge can easily see the age of each patent involved in the litigation. How the IPAM server works in conjunction with the time remaining on patents chart 230 to aid in the litigation stage is similar to the portfolio review stage 102, as described above with reference to FIG. 53.

C. The Collection Stage

FIG. 55 illustrates the time remaining on patents chart 230, used in the collection stage 110, as Tool 38, entitled "Time Remaining on Patents." The purpose of Tool 38 in the collection stage 110 is to show the licensing department how the revenue stream will vary with the time remaining on licensed patents. The time remaining on patents chart 230 shows the age of each patent for which revenues are being collected. How the IPAM server works in conjunction with the time remaining on patents chart 230 to aid in the litigation stage is similar to the portfolio review stage 102, as described above with reference to FIG. 53. One exception is that the search in step 5302 is done on all user company patents that are currently being licensed and generating revenue for the user company.

XVI. Combination of the Tools or Methods

It is important to note that most, if not all, of the tools or methods described above may be combined to interactively go back and forth between different tools. Note that in the portfolio review stage 102, a user may decide to combine or integrate one or more tools to facilitate the stage. For example, once the user utilizes Tool 26 (FIG. 46) to produce the inventor table 226, the user may also use Tool 18 (FIG. 5) to produce the topographic map 202 to facilitate the negotiation stage 106 in the licensing process. The integration of tools discussed herein to facilitate the licensing process is limitless.

XVII. Licensing Exchange

An embodiment of the present invention relates to a licensing exchange that facilitates the auction or exchange of licenses to a patent, trademark, trade secret, and so forth. In an embodiment of the present invention, licensing exchange is conducted over the Internet. Here, sellers post patents, trademarks,

etc., that they want to sell a license to. Buyers can review the posted patents, trademarks, etc., to determine if they want to purchase a license to one or more of the posted patents, trademarks, etc. Buyers and sellers can use the IPAM server and the tools/methodologies described above to facilitate the licensing exchange. Several examples of how the tools/methodologies described above can be used in the licensing exchange will be described next. The present invention is not limited to the following examples.

For example, the technology by company map 216 can aid in answering questions such as the following (but is not limited to these): (1) fields that other companies are interested in; (2) whether a company is holding other art in the field of interest; (3) if a company maintains a broad or narrow focus in their patent strategy; and (4) whether the art up for license is an orphan.

Another example involves the inventors chart 226. The inventors chart 226 aids in answering questions such as the following (but is not limited to these): (1) how broad based certain inventors are; (2) will all of a particular inventor's work be included in a license offered for sale; (3) who to check to determine if an inventor is available to transfer technology; (4) where has an inventor worked before; (5) whether the previous work of an inventor is relevant; (6) whether the previous employer of an inventor should be involved in a due diligence; (7) where an inventor is currently working; (8) whether the subsequent work of an inventor is relevant; (9) whether the subsequent employer of an inventor should be involved in a due diligence; (10) determine if there are multiple assignees on a patent; (11) whether a license includes all rights; and (12) whether other assignees should be part of a due diligence.

The nested patent citation tree 220 can be used to answer the following questions (but is not limited to these): (1) whether the licensed art is free and clear of prior work; (2) does freedom to practice exist as envisioned by the seller for a development project; (3) does freedom to practice exist as envisioned by the buyer for a development project; (4) whether any issues are highlighted in a

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patent's wrapper; and (5) whether there is ongoing work by cited assignees or inventors, and whether this work will impact the buyer's project.

The patent citation tree 218 can be used to answer the following questions (but is not limited to these): (1) whether the licensed art is free of subsequent work; (2) whether there is freedom to practice what the buyer intends; (3) whether there is other work/art that also needs to be licensed; (4) whether any ongoing work will influence the business plan of either the buyer or seller; (5) whether there is subsequent work by the seller; (6) does any subsequent work by the seller impact the buyer's project; and (7) whether the license includes rights to this subsequent work. The general management of a business feature of the present invention will be described next.

GENERAL MANAGEMENT OF BUSINESS

In the present invention, the IPAM server may be used in conjunction with the tools and methodology to aid in the general management of stages of a business. FIG.92 is an example overview of the tools that map to each stage in the general management of a business (FIG. 91). The mapping provided in FIG. 92 is presented for illustration purposes only. Other uses and applications of the invention will be apparent based on the teachings contained herein. These tools or methods include (when they are incorporated with IPAM server), but are not limited to, a topographic map 9202, a features grouping chart 9204, a portfolio actions map 9206, a core technologies map 9208, a related markets map 9210, a patent activity chart 9212, a patent activity by company chart 9214, a recent patent applications chart 9216, a technology by company map 9218, a patent citation tree 9220, a nested patent citation tree 9222, a product/patent/revenue table 9224, a document annotation 9226 and a time remaining on patents table 9228.

The following describes each tool or method and how it may be combined with the IPAM server to aid in the general management of different stages of a

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business. As each of these tools or methods are described below, an exemplary graphical presentation is used. It should be noted that the particular exemplary graphical presentation used is for convenience purposes only and the invention is not limited to that particular graphical presentation. For example, a bar chart can be also implemented as a pie chart, radar or spider charts, two or three dimensional graphs, etc., and vice versa. The same tool may be used in different ways to facilitate different stages in the general management of a business. For example, the portfolio actions map 9208 (in conjunction with the IPAM server) is Tool 1 in the embryonic stage 9102, Tool 8 in the growth stage 9104, Tool 15 in the expansion stage 9106 and Tool 923 in the mature stage 9108. In addition, portfolio action map 9208 is Tool 32 for the portfolio review stage 9201. Other uses of tools will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein.

I. IPAM Server and the Topographic Map

The description of the IPAM Server and the Topographic Map above applies to the general management of a business. Referring to FIG. 92, the IPAM server incorporates the topographic map 9202 to facilitate the portfolio review stage 9201 (as Tool 30). The IPAM server and the topographic map 9202 are used by the management team of a business in a slightly different way to facilitate the portfolio review stage 9201 than it is used in the stages of a business. Here, the management team is not focusing on any particular stage of a business. FIG. 93 illustrates the topographic map 9202 facilitating the portfolio review stage 201 as Tool 30, entitled "Topographic Map." In the portfolio review stage 201, each patent in the company's portfolio is reviewed to determine how to get the most revenue from that patent.

In FIG. 93, the topographic map 9202 as Tool 30 is shown. The purpose of Tool 30 in the portfolio review stage 9201 is to use the topographic map 9202 to show the management team the breadth of its company's and other companies'

portfolios so the management team can see at a glance if its company is a niche player in intellectual property, or have a broad base that can be taken advantage of. Looking at time slices in the topographic map 9202, the management team can see which technical areas are currently active and which are maturing. The technical and business resources can knowledgeably be deployed on this information. By marking key competitors on the map and comparing their activity to the company's own, the management team can also determine if additional or fewer technical and marketing resources are appropriate to deploy.

In one embodiment of the present invention, Tool 30 uses Cartia's ThemeScape to create the topographic map 9202 and thus create conceptual visualizations of similar technologies and markets. The x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group. The major concepts represented by the topographic map 9202 (shown in FIG.93) are the drug entities, formulations, and delivery means related to migraine headaches. How the IPAM server works in conjunction with the topographic map 9202 to aid in the portfolio review stage 9201 is described next with reference to FIG. 94.

In FIG. 94, a flowchart 9400 begins at step 9402. In step 9402, in an embodiment of the present invention a user performs a search on U.S. patents to identify products, uses and technologies covered in the company's (or other company's) patent portfolio. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents (this is also true for all of the searches discussed herein). Here, the search performed is typically, but is not limited to, a boolean and/or natural language search on the product, use and/or technology to produce a group of patents that identify products, uses and/or technologies covered in the company's patent portfolio. The user interface of the IPAM server is described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." Control then passes to step 9404.

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5 In step 9404, the IPAM server is used to produce a topographic map 9202 having a map with contours and labels indicating areas related to the products, uses and/or technologies searched in step 9402. Here, the group of patents produced in step 9402 is further divided into subgroups, with each subgroup relating to a different product, use and/or technology. Typically, this is done by the user selecting a topographic map function on the computer screen. The topographic map 9202 produced by Tool 30 (FIG. 93) shows the pattern of subjects of all of the patents produced in step 9402 (e.g., shows products, uses and/or technologies covered by the company's patent portfolio). Labels on the
10 topographic map 9202 indicate the products, uses and/or technologies, and the contours indicate how many U.S. patents exist for each subgroup area. The topographic map 9202 shows areas people are focusing on. Control then passes to step 9406.

15 In step 9406, the user company studies the topographic map 9202 produced by Tool 30 and determines whether the exact area of the product, use and/or technology is included in the topographic map 9202. If the outcome to step 9406 is positive, then control passes to step 9410. Alternatively, control passes to step 9408.

20 In step 9408, an area related to the product, use and/or technology was not included in the topographic map 9202. Here, the user can determine if another area that is shown in the topographic map 9202 is worth further exploration. Control then passes to step 9410.

25 In step 9410, the user selects the contour (or label) of interest in the topographic map 9202. This is typically done by the user "clicking" on the contour of interest. Control then passes to step 9412.

30 In step 9412, the IPAM server processes the subgroup of U.S. patents that are included in the contour of interest indicated by the user in step 9410. Again, topographic map 9202 is displayed with contours, but this time the topographic map 9202 is more specific to exactly the user's contour (or area) of interest. Now, the topographic map 9202 shows the different types of products, uses and/or technologies that are in the contour of interest. At this point, the user may

use the IPAM server as described in detail in the applications and patents referenced above in the section entitled "Cross-Reference to Other Patents and Applications." Here, flowchart 9400 ends.

II. IPAM Server and Features Grouping

5 Referring to FIG. 92, the IPAM server works in conjunction with the features grouping chart 9204 to facilitate the portfolio review stage 9201 (as Tool 31) in the general management of a business. Tool 31 is shown in FIG. 95 and is called "Features Grouping." The purpose of Tool 31 is to highlight distinctive features that other technologies and business models can provide to the management team. The provided features grouping chart 9204 highlights how close other companies products and services are to the company's products, and which of those products are patent protected. The management team can quickly sort for those feature sets which produce value and determine at a glance if intellectual property concerns should be a central part of its decision process in terms of which products to promote and build upon, and which to let languish. In addition, high level trends can be seen in the features grouping chart 9204 that may indicate a tendency of one company to be possibly infringing another's patents on a broad (many) or narrow (few scale). How the IPAM server works in conjunction with the features grouping chart 9204 to aid in the general management of a business as Tool 30 is described next with reference to FIG. 96.

20 In FIG. 96, a flowchart 9600 begins at step 9602. In step 9602, in an embodiment of the present invention a user performs a search on the groups of patents covering the company's own products and competitor's products and/or product attributes analyzed by reverse engineering the company's own products and competitor's products. The present invention is not limited to doing the search on this, but may include other available documents and/or attributes. Here, the search performed is typically a boolean and/or natural language search on

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product attributes which are sorted and grouped to create interactive maps of patented products or service features. Control passes to step 9604.

In step 9604, the IPAM server is used in conjunction with the features grouping chart 9204 to create a chart showing groupings of product and/or service features. In step 9605, one or more groups are selected, and in step 9607, the selected groups are processed consistent with the functionality described herein. Flowchart 9600 ends at this point.

III. IPAM Server and Portfolio Actions Map

Referring to FIG. 92, the IPAM server works in conjunction with the portfolio actions map 9206 to facilitate the embryonic stage 9102 (as Tool 1), the growth stage 9104 (as Tool 8), the expansion stage 9106 (as Tool 15), the mature stage 9108 (as Tool 23) and the portfolio review stage 9201 (as Tool 32). In general, the portfolio actions map 9206 provides an overall view of what to do with specific patents in the portfolio. The IPAM server and the portfolio actions map 9206 are used in a slightly different way to facilitate each of these stages.

A. The Embryonic Stage

FIG. 97 illustrates the portfolio actions map 9206 facilitating the embryonic stage 9102 as Tool 1, entitled "Embryonic Business Portfolio Actions Map." As stated above, a business in the embryonic stage 9102 is generally a start-up company (a couple of people) or a venture unit of a more established company. Typically, the strategic plan of a business in the embryonic stage 9102 includes focusing on a single product line, where the single product line is usually breaking new ground. Therefore, the purpose of Tool 1 is to allow a small team to immediately assign patents to a specific course of action in a fraction of the time that is required by traditional means of analyzing the paper version of the patents by a few individuals. Since embryonic businesses need to focus their

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5 efforts, use of the portfolio actions map 9206 helps them focus on putting effort and money into art/technology that will directly affect their business. All other art/technology is removed from start-up's or business unit's focus. How the IPAM server works, in conjunction with the portfolio actions map 9206 to aid in the general management of a business in the embryonic stage, as Tool 1 is described next with reference to FIG. 98.

In FIG. 98, a flowchart 9800 begins at step 9802. In step 9802, in an embodiment of the present invention a user performs a search on the company's patents. Control passes to step 9804.

10 In step 9804, the patents in the resulting group from step 9802 are further divided into subgroups by which type of business the patent pertains to. Control then passes to step 9806.

15 In step 9806, each subgroup of patents from step 9804 is further divided into subgroups by business unit and/or corporate direction. At this point, the IPAM server is used in conjunction with the portfolio actions map 9206 to create a chart assigning each company patent to a specific course of action. Flowchart 9800 ends at this point.

B. The Growth Stage

20 FIG. 99 illustrates the portfolio actions map 9206 facilitating the growth stage 9104 as Tool 8, entitled "Growth Business Portfolio Actions Map." As stated above, a business in the growth stage 9104 is a small company or business unit. The small company or business unit is experiencing high growth. At this point, a business typically has multiple product lines. In the growth stage 9104 a business has more of a strategic view than it does in the embryonic stage 9102.

25 Therefore, the purpose of Tool 8 is to allow a small team to immediately assign patents to a specific course of action in a fraction of the time required by traditional means of analyzing the paper version of the patents by a few individuals. Since growth businesses need to focus their efforts on both short

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term operations as well as focused strategic options, use of the portfolio actions map 9206 helps them to build upon art/technology that will directly affect their business. All other art/technology is likely to be removed from the growth company's focus. How the IPAM server works in conjunction with the portfolio actions map 9206 to aid in the growth stage 9104 is similar to how it is done in the embryonic stage 9102.

C. The Expansion Stage

FIG. 100 illustrates the portfolio actions map 9206 facilitating the expansion stage 9106 as Tool 15, entitled "Expanding Business Portfolio Actions Map." As stated above, a business in the expansion stage 9106 is a stable business or company unit. The stable business or company unit is experiencing solid growth and is profitable. Money is flowing easily and the CEO is concentrating on covering all possible areas related to the business' technology, along with venturing into different technological areas, new geographic areas, and/or new market segments. Therefore, the purpose of Tool 15 is to allow the management team or CEO to immediately assign patents to a specific course of action in a fraction of the time required by traditional means of analyzing the paper version of the patents by a few individuals. Since expansion businesses need to focus their efforts on broadened short term operations, as well as future strategic options, use of this portfolio actions map 9206 helps them focus on maintaining art/technology that will protect their business. All other art/technology is sold or licensed for revenue, or else donated or abandoned to reduce expenses. How the IPAM server works in conjunction with the portfolio actions map 9206 to aid in the expansion stage 9106 is similar to how it is done in the embryonic stage 9102.

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D. The Mature Stage

FIG. 101 illustrates the portfolio actions map 9206 facilitating the mature stage 9108 as Tool 23, entitled "Mature Business Portfolio Actions Map." As stated above, a business in the mature stage 9108 is an older company or business unit. Here, growth is slow and innovation is reduced. The older company or business unit is mostly concerned with protecting what it currently has with minimum effort and time. Thus, any growth is slow and the focus is back to a single product line. There is typically a large, positive cash flow and the older company or business unit is focused on defending its market during any consolidation phases. The posture of the CEO of a business in the mature stage 9108 is to look at the company portfolio (including, but not limited to, patents, software, trademarks, and know-how or trade secrets) and determine how to improve its cash flow.

The purpose of Tool 23 is to allow the management team or CEO to immediately assign patents to a specific course of action in a fraction of the time required by traditional means of analyzing the paper version of the patents by a few individuals. Since mature businesses need to focus their efforts on cost and profits, use of this portfolio actions map 9206 helps them focus on maintaining only art/technology that will protect their business. All other art/technology is sold or licensed for revenue, or else donated or abandoned to reduce expenses. How the IPAM server works in conjunction with the portfolio actions map 9206 to aid in the mature stage 9108 is similar to how it is done in the embryonic stage 9102.

E. The Portfolio Review Stage

FIG. 102 illustrates the portfolio actions map 9206 facilitating the portfolio review stage 201 as Tool 32, entitled "Patent Portfolio Actions Map." The purpose of Tool 32 is to allow the management team to determine what

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course of action to take with each patent in the portfolio. The location of each patent on the grid of the portfolio actions map 9206 highlights the immediate course of action to be taken with that patent. The pattern created by the company's patents on this portfolio actions map 9206 shows which business units are actively managing their intellectual property (shown by the absence of the business unit's colored dots in the abandon and license areas), and which are not. How the IPAM server works in conjunction with the portfolio actions map 9206 to aid in the portfolio review stage 201 is similar to how it is done in the embryonic stage 9102, as described above with reference to FIG. 108.

IV. IPAM Server and Core Technologies Map

Referring to FIG. 92, the IPAM server works in conjunction with the core technologies map 9208 to facilitate the expansion stage 9106 (as Tool 16), the mature stage 9108 (as Tool 24) and the portfolio stage 9201 (as Tool 33). In general, the core technologies map 9208 indicates which technical fields are essential to business success.

A. The Expansion Stage

FIG. 103 illustrates the core technologies map 9208 facilitating the expansion stage 9106 as Tool 16, entitled "Expanding Business Core Technologies Map." The purpose of Tool 16 in the expansion stage 9106 gives the business unit or CEO a visual indication of its core technologies, indicating which core technologies are well covered and which are sparsely covered. The CEO can compare the core technologies map 9208 to the strategic intent of the business and identify how well any new product development activity (Research & Development and Marketing) is being managed. In addition, Tool 16 determines what technologies are in the business's patent portfolio. How the IPAM server works in conjunction with the core technologies map 9208 to aid in the expansion stage 9106 is described next with reference to FIG.104.

In FIG. 104, a flowchart 10400 begins at step 10402. In step 10402, in an embodiment of the present invention a user performs a search on the group of all company (or business unit) patents. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 10404.

In step 10404, the IPAM server takes the group of patents produced in step 10402 and further divides it into subgroups, with each subgroup having the same technology classification. When the search in step 10402 is on the group of U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in step 10402 is on the group of International patents, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification (or IPC classification) in a meta-data field that will also need to be searched to determine the technology classification, but is not limited to this.

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Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to U.S. Patent Classifications are shown in FIGs. 173-185. The present invention is not limited to these exemplary user interfaces. Control then passes to step 10406.

5 In step 10406, the IPAM server is used in conjunction with a core technologies map 9208 to create a graphical representation of similar technologies. Typically, this is done by the user selecting a core technologies function on the computer screen. The core technologies map 9208 produced by Tool 16 (FIG.103) shows the diverse technologies (via U.S. Patent
10 Classifications) that the company's patents cover. The graphical representation in FIG. 103 is a pie chart, which was created using Excel, but is not limited to Excel. In fact, the present invention is not limited to using a pie chart, but could also use radar or spider charts, two or three dimensional graphs, etc.

Referring to FIG. 103, the U.S. Patent Classification 395 represents the
15 most common type of technology that is covered by the company's patents. Therefore, the technology included in U.S. Patent Classification 395 is well-covered by the company's patents. In contrast, the technology included in U.S. Patent Classification 369 is sparsely-covered by the company's patents.

B. The Mature Stage

20 FIG. 105 illustrates the core technologies map 9208 facilitating the mature stage 9108 as Tool 24, entitled "Mature Business Core Technologies Map." The purpose of Tool 24 in the mature stage 9108 gives the business unit or CEO a visual indication of its core technologies, indicating which core technologies are well covered and which are sparsely covered. The CEO can
25 compare the core technologies map 9208 to the strategic intent of the business and identify how well its intellectual property is being managed. In addition, Tool 24 determines what technologies are in the business's patent portfolio. How

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the IPAM server works in conjunction with the core technologies map 9208 to aid in the mature stage 9108 is similar to the expansion stage 9106.

C. The Portfolio Review Stage

FIG. 106 illustrates the core technologies map 9208 facilitating the portfolio review stage 201 as Tool 33, entitled "Company's Core Technologies Portfolio." The purpose of Tool 33 in the portfolio review stage 201 is to provide the user or company with a visual indication of their core technologies, indicating which technologies are well-covered and which technologies are sparsely-covered. Comparing the core technologies map 9208 to the strategic intent of the company identifies which business units are managing their intellectual property and which are not. Also, the core technologies map 9208 tells the company which patents or technologies are in the company's patent portfolio. How the IPAM server works in conjunction with the core technologies map 9208 to aid in the portfolio review stage 9201 is similar to the expansion stage 9106.

V. IPAM Server and Related Markets Map

Referring to FIG. 92, the IPAM server works in conjunction with the related markets map 9210 to facilitate the expansion stage 9106 (as Tool 17), the mature stage 9108 (as Tool 25) and the portfolio stage 9201 (as Tool 34). In general, the related markets map 9210 indicates which market segments can use similar products and services.

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A. The Expansion Stage

FIG. 107 illustrates the related markets map 9210 facilitating the expansion stage 9106 as Tool 17, entitled "Expanding Business Related Markets Map." The purpose of Tool 17 in the expansion stage 9106 is to identify for the management team the scope and magnitude of incremental new markets for the business unit's expanding goods, services, and manufacturing processes, weighted by the technical competencies the company possesses. The related markets map 9210 also highlights what other competitors might try and enter their expanding market segment. How the IPAM server works in conjunction with the related markets map 9210 to aid in the expansion stage 9106 is described next with reference to FIG. 108.

In FIG. 108, a flowchart 10800 begins at step 10802. In step 10802, in an embodiment of the present invention a user performs a search on the group of all patents and/or applications owned by the user company and/or of interest to the user company. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 10804.

In step 10804, the IPAM server takes the group of patents produced in step 10802 and further divides it into subgroups, with each subgroup having the same technology classification. When the search in step 10802 is on U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in step 2102 is on the International patents and applications, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification and IPC classification each as a meta-data field that will also need to be searched to determine the technology classification, but is not limited to this. Control then passes to step 10806.

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In step 10806, each U.S. and IPC classification determined by step 10804 is mapped (e.g., via a look-up table in excel) to its related SIC classification. Control then passes to step 10808.

In step 10808, the excel software or other applicable module is used in conjunction with a related markets map 9210 to create a graphical representation of similar industrial markets. Typically, this is done by the user selecting a related market function on the computer screen. The related markets map 9210 produced by Tool 17 (FIG. 107) shows the diverse markets (via SIC Classifications) that apply to the user company's patents. The graphical representation in FIG. 107 is a pie chart. The present invention is not limited to using a pie chart. The flowchart 10800 at this point ends.

Referring to FIG. 107, the related markets map 9210 represents the most common market or industry that the patents are related to. SIC classification codes are provided by the U.S. Department of Commerce.

B. The Mature Stage

FIG. 109 illustrates the related markets map 9210 facilitating the mature stage 9108 as Tool 25, entitled "Mature Business Related Markets Map." The purpose of Tool 25 in the mature stage 9108 is to identify for the management team the scope and magnitude of incremental new markets for the business unit's maturing goods, services, and manufacturing processes. This is weighted by the technical competencies the company possesses. In addition, the related markets map 9210 shows in what markets the business unit participates, as well as which markets represent additional growth opportunities. How the IPAM server works in conjunction with the related markets map 9210 to aid in the mature stage 9108 is similar to the expansion stage 9106.

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C. The Portfolio Review Stage

FIG. 110 illustrates the related markets map 9210 facilitating the portfolio review stage 201 as Tool 34, entitled "Company's Related Markets Map." The purpose of Tool 34 in the portfolio review stage 201 is to identify for the management team the scope and magnitude of potential markets for the company's good and services. This is weighted by the technical competencies the company possesses. The related markets map 9210 also shows in what markets the company participates, as well as which markets represent additional growth opportunities. How the IPAM server works in conjunction with the related markets map 9210 to aid in the portfolio review stage 9201 is similar to the expansion stage 9106.

VI. IPAM Server and Patent Activity Chart

Referring to FIG. 92, the IPAM server works in conjunction with the patent activity chart 9212 to facilitate the embryonic stage 9102 (as Tool 2) and the growth stage 9104 (as Tool 9). In general, the patent activity chart 9212 indicates how fast product/use technology is changing.

A. The Embryonic Stage

FIG. 111 illustrates the patent activity chart 9212 facilitating the embryonic stage 9102 as Tool 2, entitled "Embryonic Business Patent Activity Chart." As stated above, a business in the embryonic stage 9102 is generally a start-up company (a couple of people) or a venture unit of a more established company. Typically, the strategic plan of a business in the embryonic stage 9102 includes focusing on a single product line, where the single product line is usually breaking new ground. Therefore, the purpose of Tool 2 is to allow the management team of the start-up company or venture unit to direct their general

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activity to a rate that exceeds the industry average. To achieve such a goal, resources should be hired or partner with other business units (if the case of a venture unit of an established company). The patent activity chart 9212 identifies the speed of change in the business environment surrounding the embryonic venture unit or start-up company. How the IPAM server works, in conjunction with the patent activity chart 9212 to aid in the general management of a business in the embryonic stage, as Tool 2 is described next with reference to FIG. 112.

In FIG. 112, a flowchart 11200 begins at step 11202. In step 11202, in an embodiment of the present invention a user performs a search on the group of all patents and/or applications owned by the start-up company or venture unit. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the technology/art to produce a group of patents. Control passes to step 11204.

In step 11204, the group of patents produced by step 11202 is sorted by year. Typically, step 11204 is initiated by the user selecting a patent activity function on the computer screen. At this point flowchart 11200 ends.

B. The Growth Stage

FIG. 113 illustrates the patent activity chart 9212 facilitating the growth stage 9104 as Tool 9, entitled "Growth Business Patent Activity Chart." The purpose of Tool 9 is to direct the management team of the business unit's general activity to a rate that is the fastest in the industry. Resources should be hired, or other units partnered with, to achieve this goal. The patent activity chart 9212 identifies the speed of change in the business environment surrounding the growth business unit. How the IPAM server works in conjunction with the patent activity chart 9212 to aid in the general management of a business in the growth stage 9104 is similar to how it is done in the embryonic stage 9102.

VII. IPAM Server and Patent Activity by Company Chart

Referring to FIG. 92, the IPAM server works in conjunction with the patent activity by company chart 9214 to facilitate the expansion stage 9106 (as Tool 18) and the mature stage 9108 (as Tool 26). In general, the patent activity by company chart 9214 indicates how fast technology is changing with competitors.

A. The Expansion Stage

FIG. 114 illustrates the patent activity by company chart 9214 facilitating the expansion stage 9106 as Tool 18, entitled "Expanding Business Patent Activity by Company Chart." The purpose of Tool 18 is to audit an expected growth in patents, mostly with process patents, in the U.S. The management team knows other companies can view this market as expanding and patent growth as showing as well. This is especially true if there is a corresponding pattern in foreign filings. Competition should be based on Brand and pricing versus technology. If there is a surge of patent activity by someone else, an investigation should be done to ensure that management's expansion will not be interrupted by a breakthrough technology switch-over. The patent activity by company chart 9214 shows the intensity of past effort in the business unit's technologies by themselves and others. How the IPAM server works, in conjunction with the patent activity by company chart 9214 to aid in the general management of a business in the expansion stage 9106 as Tool 18, is described next with reference to FIG. 115

In FIG. 115, a flowchart 11500 begins at step 11502. In step 11502, in an embodiment of the present invention a user performs a search on each technology area of the company's patent in each of the major foreign countries.

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The search performed is typically a boolean and/or natural language search on the technology/art. Control passes to step 11504.

In step 11504, the group of patents produced by step 11502 is sorted by assignee/company. Control passes to step 11506.

5 In step 11506, the resulting subgroups from step 11504 are each sorted by year. Typically, step 11506 is initiated by the user selecting a patent activity by company function on the computer screen. At this point flowchart 11500 ends.

B. The Mature Stage

10 FIG. 116 illustrates the patent activity by company chart 9214 facilitating the mature stage 9108 as Tool 26, entitled "Mature Business Patent Activity by Company Chart." With Tool 26, the implication is that if there is waning activity, the management team knows others also view this particular market as mature. If the patent activity by company chart 9214 shows a surge of activity by
15 someone else, then an investigation should be done to ensure that the cash flow will not be interrupted by a late technology switch-over. In addition, the patent activity by company chart 9214 shows the intensity of past effort in the business unit's technologies by itself and others. How the IPAM server works in conjunction with the patent activity by company chart 9214 to aid in the general
20 management of a business in the mature stage 9108 is similar to the expansion stage 9106. One exception is that the search is for each technology area of the company's patents, and for each major foreign country.

VIII. IPAM Server and Recent Patent Applications Chart

25 Referring to FIG. 92, the IPAM server works in conjunction with the recent patent applications chart 9216 to facilitate the embryonic stage 9102 (as Tool 3) and the growth stage 9104 (as Tool 10). In general, the recent patent

applications chart 9216 illustrates which other companies are active in the project area.

A. The Embryonic Stage

FIG. 117 illustrates the recent patent applications chart 9216 facilitating the embryonic stage 9102 as Tool 3, entitled "Embryonic Business Recent Patent Applications Chart." The implication of Tool 3 is that the business unit's general management knows which other companies are most active in the last several years in the same technology and business as itself. The general management can then look into acquisition, merger, competitive, or complimentary strategies, as appropriate, for the goals of the business. The recent patent applications chart 9216 identifies the most recent speed of change, and by which companies, in the business environment surrounding the embryonic business unit. How the IPAM server works in conjunction with the recent patent applications chart 9216 to aid in the growth stage 9104 is described with reference to FIG. 118.

B. The Growth Stage

FIG. 118 illustrates the recent patent applications chart 9216 facilitating the growth stage 9104 as Tool 10, entitled "Growth Business Recent Patent Applications Chart." The implication of Tool 10 is that the business unit's general management knows which other companies are most active in the last several years in the same technology and business as itself. The general management can then look into acquisition, merger, competitive, or complimentary strategies, as appropriate, for the goals of the business. The recent patent applications chart 9216 identifies the most recent speed of change, and by which companies, in the business environment surrounding the growth business unit.

IX. IPAM Server and Technology by Company Map

Referring to FIG. 92, the IPAM server works in conjunction with the technology by company map 9218 to facilitate the portfolio review stage 9201. FIG. 119 illustrates the technology by company map 9218 facilitating the portfolio review stage 9201 as Tool 35, entitled "Technology by Company Map." The purpose of Tool 35 in the portfolio review stage 201 is to identify, for the portfolio team, if there is a single company, a few companies, or many companies that are competing in the same areas of technology as the company. This pattern impacts the way in which products are marketed and sold. For technology not needed by the company, the recent patent applications chart 9216 identifies licensing candidates for management. In addition, the recent patent applications chart 9216 shows which patent classifications (technical areas) have been pursued by what companies. How the IPAM server works in conjunction with the technology by company map 9218 to aid in the portfolio review stage 201 is described with reference to FIG. 120.

In FIG. 120, a flowchart 12000 begins at step 12002. In step 12002, in an embodiment of the present invention a user performs a search for a technology/art on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on a technology/art to produce a group of patents. Control passes to step 12004.

In step 12004, the IPAM server takes the group of patents produced in step 12002 and further divides it into subgroups, with each subgroup having the same patent classification. When the search in step 12002 is on the group of U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in

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step 12002 is on the group of International patents, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification (or IPC classification) in a meta-data field that will also need to be searched to determine the patent classification, but is not limited to this. Control then passes to step 12006.

In step 12006, each subgroup produced in step 12004 is further divided by assignee/company. Thus, the IPAM server is used in conjunction with a technology by company map 9218 to create a graphical representation of company and technical area by frequency. Typically, this is done by the user selecting a technology by company function on the computer screen. The flowchart 12000 ends at this point.

Referring again to FIG. 119, the chart produced by Tool 35 tells the user several things. First, it shows that companies like AT&T Bell Laboratories and International Business Machines Corporation are active in the area of the technology/art but have a broader set of activity (as represented by several patents in several different patent classifications). Companies, like Westinghouse Electric Corporation, appear to be targeting specific areas (as represented by many patents in one patent classification).

X. IPAM Server and Patent Citation Tree

Referring to FIG. 92, the IPAM server works in conjunction with the patent citation tree 9220 to facilitate the portfolio review stage 9201 (as Tool 36). Citation trees are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." In general, the patent citation tree 9220 provides a view of which companies can block and/or circumvent other companies' patents (note that the icons can display dates relevant to the patents in the tree). The invention automatically displays hierarchical maps that connect patents having similar cited references user command. In the map, the greatest gradient represents the highest change and

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so you can use that as a way to plot the velocity in different directions. For example, it is possible to display and process dates in the nodes of the tree. In this case, the contour lines can show the time line for the subject areas, and how fast they are developing.

5 FIG. 121 illustrates the patent citation tree 9220, used in the portfolio review stage 9201, as Tool 36, entitled "Patent Citation Trees." The purpose of Tool 36 in the portfolio review stage 9201 is to provide information to the management team, such that at a glance, the management team can see if other companies are focused in similar areas of technology. The rate of patent growth
10 should be fastest and strongest in the technologies with the highest profitability, best product features, and lowest costs. This pattern guides allocation of resources to the areas of the highest possible returns. The patent citation tree 9220 shows how unique, mature, expansive, and inner-related the technology is that stems from the patent being evaluated. When dates are put in the nodes of
15 the citation tree it also shows the management team how fast moving the various branches of the tree are growing. How the IPAM server works in conjunction with the patent citation tree 9220 to aid in the portfolio review stage 9201 is described with reference to FIG. 122.

 In FIG. 122, a flowchart 12200 begins at step 12202. In step 12202, in
20 an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or
25 applications. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 12204.

 In step 12204, the IPAM server takes the group of patents produced in step 12202 and further performs a forward citation on each of the patents, that
30 has the same patent class (technology area) of the user company, to create a

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patent citation tree 9220. Forward citations are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." The nodes in the patent citation tree 9220 may be color coded by assignee to allow the user to pick out color patterns easily. The flowchart 12200 ends at this point.

XI. IPAM Server and Nested Patent Citation Tree

Referring to FIG. 92, the IPAM server works in conjunction with the nested patent citation tree 9222 to facilitate the embryonic stage 9102 (as Tool 4), the growth stage 9104 (as Tool 11) and the expansion stage 9106 (as Tool 19). In general, during the general management of a business, the user company can look at the nested patent citation tree 9222 to predict related technology/markets under exploration by other companies. Patents lag the technology due to the inherent delays in patent prosecution. Thus, if the user finds a very recent patent, it may not have any forward citations since any patents that might cite it are months or years away from issuing. Thus, it would not be possible to see how the technology is developing relative to this patent since it has no forward citations.

This tool utilizes a technique that involves going back one or more generations from a given patent, and then performing forward citations on the prior generations. This identifies a patent family that is a result of a unique combination of backwards and forwards citation processing. The resulting tree tells you who's playing and in what fields that's probably around the base patent. It's an approach to look into the future of a given technology (how the technology may develop in the future). Date contours (or contours according to some other criteria) is also applicable with this tool (and with all hyperbolic trees generated by the invention).

A. The Embryonic Stage

FIG. 123 illustrates the nested patent citation tree 9222, used in the embryonic stage 9102, as Tool 4, entitled "Embryonic Business Nested Citation Tree." The purpose of Tool 4 in the embryonic stage 9102 is to provide information to the management team (or CEO) so that it can predict if there are other competing technologies under development so the management team can change its technical and market strategies accordingly. In addition, Tool 4 produces a nested patent citation tree 9222 that shows on which companies the business unit should be a preliminary investigation for possible future marketplace conflicts. How the IPAM server works in conjunction with the nested patent citation tree 9222 to aid in the embryonic stage 9102 is described with reference to FIG. 124.

In FIG. 124, a flowchart 12400 begins at step 12402. In step 12402, in an embodiment of the present invention a user performs a search on the group of the user company's patents that address the user company's fastest moving technology areas. These patents may include U.S., European, and Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 12404.

In step 12404, the IPAM server determines the prior generation patent of each patent produced in step 12402 (e.g., goes back one citation for each patent). Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to backward citation are shown in FIGs. 163-167. The present invention is not limited to these exemplary user interfaces. Control passes to step 12406.

In step 12406, the IPAM server takes the group of patents produced in step 5002 and further performs three forward citations on each of the patents to create a nested patent citation tree 9222. The nodes in the patent citation tree

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9224 may be color coded by assignee to allow the user to pick out color patterns easily. The flowchart 12400 ends at this point.

B. The Growth Stage

FIG. 125 illustrates the nested patent citation tree 9222, used in the growth stage 9104, as Tool 11, entitled "Growth Business Nested Citation Tree." The purpose of Tool 11 in the growth stage 9104 is to provide information to the management team (or CEO) so that it can predict if there are possibly other competing technologies and markets under development so the management team can change its technical and market strategies accordingly. In addition, Tool 11 produces a nested patent citation tree 9222 that shows on which companies the business unit's competitive intelligence should do a preliminary investigation for possible future marketplace conflicts and also for potential infringing products and services. How the IPAM server works in conjunction with the nested patent citation tree 9222 to aid in the growth stage 9104 is similar to the embryonic stage 9102.

C. The Expansion Stage

FIG. 126 illustrates the nested patent citation tree 9222, used in the expansion stage 9106, as Tool 19, entitled "Expanding Business Nested Citation Tree." The implication of the nearest patent citation tree 9222 in the expansion stage 9106 is that the management team knows early on technical and market areas which are being explored by others so it can change its technical and market strategies accordingly. In addition, Tool 19 produces a nested patent citation tree 9222 that shows on which companies the business unit's competitive intelligence should do a preliminary investigation for possible future marketplace conflicts in various foreign countries, and also for potential infringing products and services.

How the IPAM server works in conjunction with the nested patent citation tree 9222 to aid in the expansion stage 9106 is similar to the embryonic stage 9102.

XII. IPAM Server and Product/Patent/Revenue Table

In FIG. 92, the IPAM server works in conjunction with the product/patent/revenue table 9222 to facilitate the embryonic stage 9102 (as Tool 5), the growth stage 9104 (as Tool 12), the expansion stage 9106 (as Tool 20), the mature stage 9108 (as Tool 27) and the portfolio review stage 9201 (as Tool 37). In general, the product/patent/revenue table 9222 shows which products, and their revenue stream size, are protected by patents.

A. The Embryonic Stage

FIG. 127 illustrates the product/patent/revenue table 9224, used in the embryonic stage 9102, as Tool 5, entitled "Embryonic Business Product/Patent/Revenue Table." The purpose of Tool 5 is to allow the management team see at a glance which patents are protecting the business' revenue streams and which are not. Those not protecting revenue for the user company may be subject to a decision to license out, donate, or abandon. In general, the product/patent/revenue table 9224 produced by Tool 5 shows for each patent how much of the business unit's sales revenue is being covered. How the IPAM server works in conjunction with the product/patent/revenue table 9224 to aid in the embryonic stage 9102 is described with reference to FIG. 128.

In FIG. 128, a flowchart 12800 begins at step 12802. In step 12802, in an embodiment of the present invention a user performs a search on the group of company documents and patents, but is not limited to this. This typically involves a boolean and/or natural language search on the product, use and/or technology to produce a group of documents and patents. Control passes to step 12804.

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In step 12804, the IPAM server integrates financial information from the user company's book, with its manufacturing tracking system, and each patent (produced from step 12802) to produce the product/patent/revenue table 9224. At this point, flowchart 12800 ends.

5 B. The Growth Stage

FIG. 129 illustrates the product/patent/revenue table 9224, used in the growth stage 9104, as Tool 12, entitled "Growth Business Product/Patent/Revenue Table." The purpose of Tool 12 is to allow the management team see at a glance which patents are protecting the business' revenue streams and which are not. Those not protecting revenue for the user company may be subject to a decision to license out, donate, or abandon. Those that are protecting the business' revenue streams are sent to marketing and Research & Development for strengthening of the patent fence. How the IPAM server works in conjunction with the product/patent/revenue table 9224 to aid in the growth stage 9104 is similar to the embryonic stage 9102.

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C. The Expansion Stage

FIG. 130 illustrates the product/patent/revenue table 9224, used in the expansion stage 9106, as Tool 20, entitled "Expanding Business Product/Patent/Revenue Table." The purpose of Tool 20 is to allow the management team see at a glance which patents are protecting the business' revenue streams and which are not. Highly profitable products not protected in any particular country revenue are sent to marketing and Research & Development for strengthening of the patent fence. Patents covering marginally profitable or growing products are subject to a decision to license out, donate, or abandon on a country by country basis. In addition, the product/patent/revenue table 9224 shows for each patent how much of the business unit's sales revenue

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is being covered by each country in which the unit operates. How the IPAM server works in conjunction with the product/patent/revenue table 9224 to aid in the expansion stage 9106 is similar to the embryonic stage 9102.

D. The Mature Stage

5 FIG. 131 illustrates the product/patent/revenue table 9224, used in the mature stage 9108, as Tool 27, entitled "Mature Business Product/Patent/Revenue Table." The purpose of Tool 27 is to allow the management team see at a glance which patents are protecting the business' revenue streams and which are not. Patents not protecting revenue are subject to a decision to license out, donate, or
10 abandon. In addition, the product/patent/revenue table 9224 shows for each patent how much of the business unit's sales revenue is being covered. How the IPAM server works in conjunction with the product/patent/revenue table 9224 to aid in the mature stage 9108 is similar to the embryonic stage 9102.

E. The Portfolio Review Stage

15 FIG. 132 illustrates the product/patent/revenue table 9224, used in the portfolio review stage 9201, as Tool 37, entitled "Company's Product/Patent/Revenue Table." The purpose of Tool 37 is to allow the management team see at a glance which patents are protecting the business' revenue streams and which are not. Patents not protecting revenue are subject
20 to a decision to license out, donate, or abandon. In addition, the product/patent/revenue table 9224 shows for each patent how much of the business unit's sales revenue is being covered. How the IPAM server works in conjunction with the product/patent/revenue table 9224 to aid in the portfolio review stage 9201 is similar to the embryonic stage 9102.

XIII. IPAM Server and Document Annotation

FIG. 92 illustrates that the IPAM server works in conjunction with the document annotation 9226 to facilitate the embryonic stage 9102 (as Tool 6), the growth stage 9104 (as Tool 13), the expansion stage 9106 (as Tool 21), the mature stage 9108 (as Tool 28) and the portfolio review stage 9201 (as Tool 38). In general, the document annotation allows for immediate, linked, searchable documentation of facts and ideas.

A. The Embryonic Stage

FIG. 133 illustrates the document annotation 9226, used in the embryonic stage 9102, as Tool 6, entitled "Embryonic Business Document Annotations." The purpose of Tool 6 in the embryonic stage 9102 is to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent preparation, filing, licensing, and litigation. In addition, the document annotation 9226 allows for annotations to document how each patent being added to the portfolio may be related to technology developments, geographic decisions to file in foreign countries to support later stage business expansion, new products, and marketing information. It is also used to document infringing activities of others. How the IPAM server works in conjunction with the document annotation 9226 to aid in the embryonic stage 9102 is described next with reference to FIG. 134.

In FIG. 134, a flowchart 13400 begins at step 13402. In step 13402, in an embodiment of the present invention a user performs a search on the groups of patents and corporate documents, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents and/or corporate documents. Control passes to step 13404.

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In step 13404, the IPAM server allows the user to make annotations on one or more of the patents and/or corporate documents in the group produced by step 13402. Flowchart 13400 ends at this point.

B. The Growth Stage

5 FIG. 135 illustrates the document annotation 9226, used in the growth stage 9104, as Tool 13, entitled "Growth Business Document Annotations." The purpose of Tool 13 in the growth stage 9104 is to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent preparation, filing, licensing, and litigation. In addition, the
10 document annotation 9226 allows for annotations to document how each patent being added to the portfolio may be related to technology developments, geographic decisions to file in foreign countries to support later stage business expansion, new products, data sheets, and other marketing information. It is also used to document infringing activities of others. How the IPAM server works in
15 conjunction with the document annotation 9226 to aid in the growth stage 9104 is similar to the embryonic stage 9102.

C. The Expansion Stage

 FIG. 136 illustrates the document annotation 9226, used in the expansion stage 9106, as Tool 21, entitled "Expansion Business Document Annotations."
20 The purpose of Tool 21 in the expansion stage 9106 is to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent preparation, filing, licensing, and litigation. In addition, the document annotation 9226 allows for annotations to document how each patent being added to the portfolio may be related to technology
25 developments, geographic decisions to file in foreign countries, products, data sheets, press releases, and other marketing and sales information. It is also used

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to document infringing activities of others. How the IPAM server works in conjunction with the document annotation 9226 to aid in the expansion stage 9106 is similar to the embryonic stage 9102.

D. The Mature Stage

5 FIG. 137 illustrates the document annotation 9226, used in the mature stage 9108, as Tool 28, entitled "Expansion Business Document Annotations." The purpose of Tool 28 in the mature stage 9108 is to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent licensing and litigation. In addition, the document annotation
10 9226 allows for annotations to document how each patent may be related to past technology developments, geographic decisions to file in foreign countries, products, data sheets, press releases, and other marketing and sales information. How the IPAM server works in conjunction with the document annotation 9226 to aid in the mature stage 9108 is similar to the embryonic stage 9102.

15 E. The Portfolio Review Stage

 FIG. 138 illustrates the document annotation 9226, used in the portfolio review stage 9201, as Tool 38, entitled "Document Annotations." The purpose of Tool 38 in the portfolio review stage 9201 is to allow for pre-meeting recorded, indexed knowledge to be used to expedite patent portfolio review meetings. In
20 addition, the document annotation 9226 allows for annotations to document how each patent and trade secret fits into the overall portfolio. How the IPAM server works in conjunction with the document annotation 9226 to aid in the portfolio review stage 9201 is similar to the embryonic stage 9102.

XIV. IPAM Server and Time Remaining on Patents Chart

Referring to FIG. 92, the IPAM server works in conjunction with the time remaining on patents chart 9228 to facilitate the embryonic stage 9102 (as Tool 7), the growth stage 9104 (as Tool 14), the expansion stage 9106 (as Tool 22), the mature stage 9108 (as Tool 29) and the portfolio review stage 9201 (as Tool 39). In general, during the general management of a business, the user company can look at the time remaining on patents chart 9228 to see how long the company's art is protected by patents.

A. The Embryonic Stage

FIG. 139 illustrates the time remaining on patents chart 9228, used in the embryonic stage 9102, as Tool 7, entitled "Time Remaining on Embryonic Business' Patents." The implication of the time remaining on patents chart 9228 in the embryonic stage 9102 is to show the business unit team which technologies have lots of life left in them (e.g., which patents protecting these technologies have long patent terms left) and will protect the cash flow of the growth business for each product for years to come. The time remaining on patents chart 9228 also shows which patents are about to expire and therefore will potentially allow competitors to erode margins. Planning for such events, the general manager (or CEO) can decide which products and technologies to promote and which to dismiss. For an embryonic business to succeed the patents should be young (have many years on their patent terms). The time remaining on patents chart 9228 also shows the age of each of the business unit's patents. How the IPAM server works in conjunction with the time remaining on patents chart 9228 to aid in the embryonic stage 9102 is described next with reference to FIG. 140.

In FIG. 140, a flowchart 14000 begins at step 14002. In step 14002, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the business unit. The present invention is not limited to

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doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a technical area. Control passes to step 14004.

5 In step 14004, the IPAM server sorts the patents in the resulting group from step 14002 by years to expire. Typically, step 14004 is initiated by the user selecting a time remaining on patents function on the computer screen. At this point flowchart 14000 ends.

B. The Growth Stage

10 FIG. 141 illustrates the time remaining on patents chart 9228, used in the growth stage 9104, as Tool 14, entitled "Time Remaining on Growth Business' Patents." The implication of the time remaining on patents chart 9228 in the growth stage 9104 is to show the business unit team which technologies have lots of life left in them (e.g., which patents protecting these technologies have long
15 patent terms left) and will protect the cash flow of the growth business for each product for years to come. The time remaining on patents chart 9228 also shows which patents are about to expire and therefore will potentially allow competitors to erode margins. Planning for such events, the general manager (or CEO) can decide which products and technologies to promote and which to dismiss. The
20 time remaining on patents chart 9228 also shows the age of each of the business unit's patents. How the IPAM server works in conjunction with the time remaining on patents chart 9228 to aid in the growth stage 9104 is similar to the embryonic stage 9102.

C. The Expansion Stage

25 FIG. 142 illustrates the time remaining on patents chart 9228, used in the expansion stage 9106, as Tool 22, entitled "Time Remaining on Expanding

Business' Patents." The implication of the time remaining on patents chart 9228 in the expansion stage 9106 is to show the business unit team which technologies have lots of life left in them (e.g., which patents protecting these technologies have long patent terms left) and will protect the cash flow of the growth business for each product for years to come. The time remaining on patents chart 9228 also shows which patents are about to expire and therefore will potentially allow competitors to erode margins, or prevent profitable market penetration in a foreign country. Planning for such events, the general manager (or CEO) can decide which market segments and which countries to enter for growth. The time remaining on patents chart 9228 also shows the age of each of the business unit's patents. How the IPAM server works in conjunction with the time remaining on patents chart 9228 to aid in the expansion stage 9106 is similar to the embryonic stage 9102.

D. The Mature Stage

FIG. 143 illustrates the time remaining on patents chart 9228, used in the mature stage 9108, as Tool 29, entitled "Time Remaining on Mature Business' Patents." The implication of the time remaining on patents chart 9228 in the mature stage 9108 is to show the business unit team which technologies have lots of life left in them (e.g., which patents protecting these technologies have long patent terms left) and will protect the cash flow of the growth business for each product for years to come. The time remaining on patents chart 9228 also shows which patents are about to expire and therefore will potentially allow competitors to erode margins. Planning for such events, the general manager (or CEO) can decide whether to invest in incremental product or process technology, and/or brand building activities to sustain the cash flow. The time remaining on patents chart 9228 also shows the age of each of the business unit's patents. How the IPAM server works in conjunction with the time remaining on patents chart 9228 to aid in the mature stage 9108 is similar to the embryonic stage 9102.

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E. The Portfolio Review Stage

FIG. 144 illustrates the time remaining on patents chart 9228, used in the portfolio review stage 9201, as Tool 39, entitled "Time Remaining on Patent Portfolio." The implication of the time remaining on patents chart 9228 in the portfolio review stage 9201 is to show the portfolio team which technologies are young and worthy of investment, and which are about to expire. Where a patent is about to expire, the general manager must decide whether to re-invest in the business or run it as a cash flow. The time remaining on patents chart 9228 also shows the age of each of the business unit's patents. How the IPAM server works in conjunction with the time remaining on patents chart 9228 to aid in the portfolio review stage 9201 is similar to the embryonic stage 9102. The merger and acquisition feature of the present invention will be described next.

MERGER ACQUISITION PROCESS

In the present invention, the IPAM server may be used in conjunction with the tools and methodology to aid in all stages of the merger and acquisition process. In the present invention, the IPAM server may be used in conjunction with the tools and methodologies to aid in the merger and acquisition process. FIG. 147 is an example overview of the tools that map to each stage in the merger and acquisition process. The mapping provided in FIG. 147 is presented for illustration purposes only. Other uses and applications of the invention will be apparent based on the teachings contained herein. These tools or methods include (when they are incorporated with IPAM server), but are not limited to, a topographic map 14702, a technology classification 14704, a SIC classification 14706, a radar diagram 14708, a patent citation tree 14710, a citation root tree 14712, a citation count report 14714, a citation frequency graph 14716, a citation frequency report 14718, a patent count/year 14720, an application count/year 14722, a patent aging graph 14724, a U.S. primary class/subclass 14726, an

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international patent class 14728, an assignee patent count report by primary class/subclass 14730, a patent count graph by number of patents 14732, a top assignees primary class/subclass by percent of total 14734, a months to issue patents 14736, a features grouping 14738, a document annotation 14740, an inventor patent count/assignee 14742, an inventor patent count graph 14744, and inventor data 14746.

FIG. 147 also shows a legend 14701. The legend 14701 indicates what each tool is most useful for in the merger and acquisition process. The four uses include: strategic fit (indicated by a diamond), reward (indicated by a dollar sign), risk (indicted by an hour glass) and capability (indicated by a solid circle). FIG. 147 shows that the tools most useful to determine strategic fit include the topographic map 14702, the technology classification 14704, the SIC classification 14706, the radar diagram 14708, the patent citation tree 14710 and the U.S. primary class/subclass 14726. The tools most useful to determine reward include the citation count report 14714, the citation frequency graph 14716, the citation frequency report 14718, the international patent class 14728 and the top assignees primary class/subclass by percent of total 14734. The tools most useful to determine risk include the citation root tree 14712, the patent aging graph 14724, the assignee patent count report by primary class/subclass 14730, the patent count graph by number of patents 14732, the months to issue patents 14736 and the features grouping 14738. Finally, the tools most useful to determine capability include the patent count/year 14720, the application count/year 14722, the document annotation 14740, the inventor patent count/assignee 14742, the inventor patent count graph 14744 and the inventor data 14746. The tools or methods of the present invention are not limited to its respective use mentioned above. Why each of these tool/methods are most useful for its respective use will be apparent as the tools/method are described below.

The following describes each tool or method and how it may be combined with the IPAM server to aid in the merger and acquisition process. As each of these tools or methods are described below, an exemplary graphical presentation

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may be used. It should be noted that the particular exemplary graphical presentation used is for convenience purposes only and the invention is not limited to that particular graphical presentation. For example, a bar chart can be also implemented as a pie chart, radar or spider charts, two or three dimensional graphs, etc., and vice versa.

At times the present invention relates to a portfolio. Although the present invention is described with reference to a patent portfolio, the present invention is not limited to patents. In fact, the present invention applies to any item that another party may take a license for, including trademarks, software programs, know-how (e.g., trade secrets) and so forth.

The same tool may be used in different ways to facilitate different stages in the merger and acquisition process. Other uses of tools will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein.

I. IPAM Server and the Topographic Map

Referring to FIG. 147, the IPAM server incorporates the topographic map 14702 to facilitate the identify targets stage 14602 (as Tool 1), the evaluate/analyze stage 14604 (as Tools 1, 2, 3 and 3a), and the negotiation stage 14608 (as Tools 2, 3 and 3a). FIG. 203 illustrates the topographic map 14702 facilitating the identify targets stage 14602 and the evaluate/analyze stage 14604 as Tool 1, entitled "Topographic Map Company A Patents."

Tool 1 and the Identify Targets Stage and the Evaluate/Analyze Stage

In FIG. 148, the topographic map 14702 as Tool 1 is shown. The purpose of Tool 1 in the identify targets stage 14602 and the evaluate/analyze stage 14604 is to use the topographic map 14702 to show dominance or area of focus of Company A's portfolio and the distinguishing area of patent concentration. In an

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embodiment of the present invention, all subsidiaries of Company A are provided by searching the Edgar database or by the competitive intelligence department.

In one embodiment of the present invention, Tool 1 uses Cartia's ThemeScape to create the topographic map 14702 and thus create conceptual visualizations of dominance or area of focus. The x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group. How the IPAM server works in conjunction with the topographic map 14702 to aid in the identify targets stage 14602 and the evaluate/analyze stage 14604 is described next with reference to FIG. 149. Typically, Tool 1 is initiated by the user selecting a topographic map function on the computer screen.

In FIG. 149, a flowchart 14900 begins at step 14902. In step 14902, in an embodiment of the present invention a user performs a search on U.S. patents portfolio to identify products, uses and technologies covered in Company A's patent portfolio. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents (this is also true for all of the searches discussed herein). Here, the search performed is typically, but is not limited to, a boolean and/or natural language search on the product, use and/or technology to produce a group of patents that identify products, uses and/or technologies covered in Company A's patent portfolio. The user interface of the IPAM server is described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." For illustration, FIGs. 264-267 each show an exemplary screen shot of the IPAM server's user interface relating to the boolean and/or natural language search described herein. The present invention is not limited to these exemplary screen shots. Control then passes to step 14904.

In step 14904, the IPAM server is used to produce a topographic map 14702 having a map with contours and labels indicating areas related to the products, uses and/or technologies searched in step 14902. Here, the group of

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patents produced in step 14902 is further divided into subgroups, with each subgroup relating to a different product, use and/or technology. Typically, this is done by the user selecting a topographic map function on the computer screen. The topographic map 14702 produced by Tool 1 (FIG. 203) shows the pattern of subjects of all of the patents produced in step 14902 (e.g., shows products, uses and/or technologies covered by Company A's patent portfolio). Labels on the topographic map 14702 indicate the products, uses and/or technologies, and the contours indicate how many U.S. patents exist for each subgroup area. The topographic map 14702 shows dominance or areas people are focusing on. Control then passes to step 14906.

In step 14906, the user company studies the topographic map 14702 produced by Tool 1 and determines whether the exact area of the product, use and/or technology is included in the topographic map 14702. If the outcome to step 14906 is positive, then control passes to step 14910. Alternatively, control passes to step 14908.

In step 14908, an area related to the product, use and/or technology was not included in the topographic map 14702. Here, the user can determine if another area that is shown in the topographic map 14702 is worth further exploration. Control then passes to step 14910.

In step 14910, the user selects the contour (or label) of interest in the topographic map 14702. This is typically done by the user "clicking" on the contour of interest. Control then passes to step 14912.

In step 14912, the IPAM server processes the subgroup of U.S. patents that are included in the contour of interest indicated by the user in step 14910. Again, topographic map 14702 is displayed with contours, but this time the topographic map 14702 is more specific to exactly the user's contour (or area) of interest. Now, the topographic map 14702 shows the different types of products, uses and/or technologies that are in the contour of interest. At this point, the user may use the IPAM server as described in detail in the applications and patents

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referenced above in the section entitled "Cross-Reference to Other Patents and Applications." Here, flowchart 14900 ends.

B. Tool 2 and the Evaluate/Analyze Stage and the Negotiation Stage

5 In FIG. 150, the topographic map 14702 as Tool 2 is shown. The purpose of Tool 2 in the evaluate/analyze stage 14604 and the negotiation stage 14608 is to use the topographic map 14702 to show dominance of Company B's (e.g., other company that Company A is considering either a merger with or acquisition of) portfolio and the distinguishing area of patent concentration. It also shows the "white space" between various technologies and uses that could be the basis of post-merger business development. In an embodiment of the present invention, all subsidiaries of Company B are provided by searching the Edgar database or by the competitive intelligence department. How the IPAM server works in conjunction with the Tool 2 is similar to Tool 1.

C. Tool 3 and the Evaluate/Analyze Stage and the Negotiation Stage

15 In FIG. 151, the topographic map 14702 as Tool 3 is shown. The purpose of Tool 2 in the evaluate/analyze stage 14604 and the negotiation stage 14608 is to use the topographic map 14702 to show concept relationship of each party's (Company A's and Company B's) patents, and distinguishes if the patents overlap or compliment each other. Tool 3 determines if the merger will allow for growth in an existing or new area. This forms the basis for a favorable/unfavorable recommendation during the evaluate/analyze stage 14604 and moves the valuation up or down in the negotiation stage 14608. How the IPAM server works in conjunction with Tool 3 is similar to Tool 1, as described above with reference to FIG. 149. Here, the search is done by each company name to distinguish patent concentration of combined portfolio, maps are printed for each search done, and transparencies are printed to show overlap or compliment of

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portfolios. The search is performed to produce patents of both Company A and Company B.

D. Tool 3a and the Evaluate/Analyze Stage and the Negotiation Stage

In FIG. 209, the topographic map 14702 as Tool 3a is shown. The purpose of Tool 3a in the evaluate/analyze stage 14604 and the negotiation stage 14608 is to use the topographic map 14702 to show dominance or area of technology focus of Company A's industry and the distinguishing areas of patent concentration in the competitive landscape. How the IPAM server works in conjunction with Tool 3a is similar to Tool 1.

II. IPAM Server and Technology Classification

Referring to FIG. 152, the IPAM server works in conjunction with the technology classification 14704 to facilitate the identify targets stage 14602 and the evaluate/analyze stage 14604 as Tool 17. In general, the technology classification 14704 identifies technologies in a company's patent portfolio.

FIG. 152 illustrates the technology classification 14704 facilitating the identify targets stage 14602 and the evaluate/analyze stage 14604 as Tool 17, entitled "Technology Classification." The purpose of Tool 17 in the identify targets stage 14602 and the evaluate/analyze stage 14604 is to give Company B a visual indication of Company A's core technologies, indicating which are well covered and which are sparse. Comparing this chart to the strategic intent of Company B, it identifies technologies to have the research and development department build upon to make more robust, and which technologies to license out to create more value for the proposed merger. How the IPAM server works in conjunction with the technology classification 14704 to aid in the identify targets stage 14602 and the evaluate/analyze stage 14604 is described next with

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reference to FIG. 153. Typically, Tool 17 is initiated by the user selecting a technology classification function on the computer screen.

In FIG.153, a flowchart 15300 begins at step 15302. In step 15302, in an embodiment of the present invention a user performs a search on the group of all Company A's patents. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 15304.

In step 15304, the IPAM server takes the group of patents produced in step 15302 and further divides it into subgroups, with each subgroup having the same technology classification. When the search in step 15302 is on the group of U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. In a similar manner, if the search in step 15302 is on the group of International patents, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification (or IPC classification) in a meta-data field that will also need to be searched to determine the technology classification, but is not limited to this. Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to U.S. Patent Classifications are shown in FIGs. 286-209. The present invention is not limited to these exemplary user interfaces. Control then passes to step 15306.

In step 15306, the IPAM server is used in conjunction with a technology classification 14704 to create a graphical representation of similar technologies. The technology classification 14704 produced by Tool 17 (FIG. 207) shows the diverse technologies (via U.S. Patent Classifications) that Company A's patents cover. The graphical representation in FIG. 207 is a pie chart, which was created using Excel, but is not limited to Excel. In fact, the present invention is not limited to using a pie chart, but could also use radar or spider charts, two or three dimensional graphs, etc.

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Referring to FIG. 152, the U.S. Patent Classification 395 represents the most common type of technology that is covered by Company A's patents. Therefore, the technology included in U.S. Patent Classification 395 is well-covered by Company A's patents. In contrast, the technology included in U.S. Patent Classification 369 is sparsely-covered by Company A's patents.

III. IPAM Server and the SIC Classification

Referring to FIG. 147, the IPAM server works in conjunction with the SIC classification 14706 to facilitate the evaluate/analyze stage 14604 as Tool 18. In general, the SIC classification 14706 indicates which market segments can use the products and services.

FIG. 154 illustrates the SIC classification 14706 facilitating the evaluate/analyze stage 14604 as Tool 18, entitled "SIC Classification." The purpose of Tool 18 in the evaluate/analyze stage 14604 is to identify the scope and magnitude of potential competitors and licensees of patents of the proposed merger. Tool 18 shows what markets are, might be using, or interested in, the Company A's patent portfolio. How the IPAM server works in conjunction with the SIC classification 14706 to aid in the evaluate/analyze stage 14604 is described next with reference to FIG. 155. Typically, Tool 18 is initiated by the user selecting a SIC classification function on the computer screen.

In FIG. 155, a flowchart 15500 begins at step 15502. In step 15502, in an embodiment of the present invention a user performs a search on the group of all patents and/or applications owned by Company A and/or of interest to Company A. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 15504.

In step 15504, the IPAM server takes the group of patents produced in step 15502 and further divides it into subgroups, with each subgroup having the same technology classification. When the search in step 15502 is on U.S. patents, the classification used is the U.S. Patent Classification designated by the U.S. Patent and Trademark Office. SIC classification codes are provided by the U.S. Department of Commerce. In a similar manner, if the search in step 2102 is on the International patents and applications, then the classification used would be the IPC classification. The IPAM server may store the U.S. Patent Classification and IPC classification each as a meta-data field that will also need to be searched to determine the technology classification, but is not limited to this. Control then passes to step 15506.

In step 15506, each U.S. and IPC classification determined by step 15504 is mapped (e.g., via a look-up table) to its related SIC classification. Control then passes to step 15508.

In step 15508, the IPAM server is used in conjunction with a SIC classification 14706 to create a graphical representation of similar industrial markets. Typically, this is done by the user selecting a related market function on the computer screen. The SIC classification 14706 produced by Tool 18 (FIG. 209) shows the diverse markets (via SIC Classifications) that apply to Company A's patents. The graphical representation in FIG. 209 is a pie chart. The present invention is not limited to using a pie chart. The flowchart 15500 at this point ends.

IV. IPAM Server and the Radar Diagram

Referring to FIG. 147, the IPAM server works in conjunction with the radar diagram 14708 to facilitate the identify targets stage 14602 and the evaluate/analyze stage 14604 as Tool 26. In general, the radar diagram 14708 identifies technology synergy of merger.

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FIG. 156 illustrates the radar diagram 14708 facilitating the identify targets stage 14602 and the evaluate/analyze stage 14604 as Tool 26, entitled "Radar Diagram." The purpose of Tool 26 is to provide Company B with a visual indication of the technology overlap and for synergy in a possible merge. How the IPAM server works in conjunction with the radar diagram 14708 to aid in the identify targets stage 14602 and the evaluate/analyze stage 14604 is described next with reference to FIG. 157. Typically, Tool 26 is initiated by the user selecting a radar diagram function on the computer screen.

In FIG. 157, a flowchart 15700 begins at step 15702. In step 15702, in an embodiment of the present invention a user performs a search on the group of all Company A's and Company B's patents. The search performed is typically a boolean and/or natural language search on the primary class designation to produce a group of patents. Control passes to step 15704.

In step 15704, the group of patents that resulted from step 15702 are sorted by assignee (to separate Company A's and Company B's patents). Control passes to step 15706.

In step 106, the IPAM server is used in conjunction with radar diagram 14708 to create a graphical representation of technology synergy of merger. Flowchart 15700 ends at this point.

V. IPAM Server and Patent Citation Tree

Referring to FIG. 147, the IPAM server works in conjunction with the patent citation tree 14710 to facilitate the evaluate/analyze stage 14604 (as Tools 8a and 8c), the due diligence stage 14606 (as Tools 8a and 8c) and the negotiation stage 14608 (as Tools 8a, 8b and 8c). Citation trees are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." In general, the patent citation tree 14710 provides a view of which companies can block and/or circumvent other companies' patents (note that the icons can display dates relevant to the patents

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in the tree). The invention automatically displays contour maps that connect patents having the same dates, assignees, classifications, etc., upon user command. In the map, the greatest gradient is the highest change and so you can use that as a way to plot the velocity in different directions. Thus, the contour lines can show the time line for the subject areas, and how fast they are developing.

A. Tool 8a and the Evaluate/Analyze Stage, the Due Diligence Stage, and the Negotiation Stage

FIG. 158 illustrates the patent citation tree 14710, used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608, as Tool 8a, entitled "Patent Citation Tree Backward or Forward by Assignee." The purpose of Tool 8a is to identify which patents might act as prior art to later inventions. These need to be investigated in the evaluate/analyze stage 14604 and in the due diligence stage 14606. The nodes of the tree can also be color coded with red to indicate a license to practice is needed, yellow to indicate freedom to practice is application dependent, and green to show complete freedom to practice. Other colors, "box" shapes or icons, or icons associated with the boxes, etc., to indicate freedom to practice may also be used. These freedom-to-practice diagrams may be used in the negotiation phase to indicate value, along with the complexity of the prior art relationship shown by the inherent structure of the tree. How the IPAM server works in conjunction with the patent citation tree 14710 to aid in the the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 is described with reference to FIG. 159. Typically, Tool 8a is initiated by the user selecting a patent citation tree function on the computer screen.

In FIG. 159, a flowchart 15900 begins at step 15902. In step 15902, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to

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this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 15904.

In step 15904, the IPAM server takes the group of patents produced in step 15902 and further performs a forward citation on each of the patents, that has the same patent class (technology area) of the user company, to create a patent citation tree 159710. Forward citations are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." The nodes in the patent citation tree 159710 may be color coded (or indicated by another means) by assignee to allow the user to pick out color patterns easily. The flowchart 15900 ends at this point.

B. Tool 8b and the Negotiation Stage

FIG. 160 illustrates the patent citation tree 14710, used in the negotiation stage 14608, as Tool 8b, entitled "Patent Citation Tree." In general, the purpose of Tool 8b is to show which companies were free-to-practice and which were not free-to-practice the art in question. When the nodes of the patent citation tree 14710 are color coded for freedom-to-practice (red-yellow-green), it shows which companies must take a license to the patent(s).

This is a powerful visualization tool for the negotiation team. It shows the other side the depth of the analysis and the value of the patent under discussion. The patent citation tree 14710 also identifies for the negotiation team how fast the technical area is moving and how many companies are involved. In addition, it visually shows the uniqueness of the patent under discussion, and from the richness of the tree, how valuable it is. How the IPAM server works in conjunction with Tool 8b is similar to Tool 8a, as described above. Here, the

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patent citation tree 14710 is created by running the forward citation analysis for key patents which will transfer as part of the merger.

C. Tool 8c and the Evaluate/Analyze Stage, the Due Diligence Stage, and the Negotiation Stage

5 FIG. 161 illustrates the patent citation tree 14710, used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608, as Tool 8c, entitled "Patent Citation Tree." The purpose of Tool 8c is to allow the merger and acquisition team to see, at a glance, if other companies are focused in a specific effort to work in just one branch of the technology, or are
10 working in many areas. Companies working in many areas will be good candidates for a post-merger assertion and license out analysis. This can generate a cash flow stream to help justify the merger deal. Where cited patents are from either merger company, the nodes of the tree may be color coded or marked with an icon or box shape, etc., so that the merger and acquisition team can see at a
15 glance the strength of the combined "picket fence" the merger will create.

 In addition, the patent citation tree 14710 produced by Tool 8c shows how unique, mature, expansive, and inner-related the technology is that stems from the patent being evaluated. When dates are put in the nodes, it also shows the merger and acquisition team how fast moving the various branches of the tree are
20 growing. How the IPAM server works in conjunction with Tool 8c is similar to Tool 8a, as described above. Here, the patent citation tree 14710 is created by running the forward citation analysis for key patents which will transfer as part of the merger.

VI. IPAM Server and Citation Root Tree

25 Referring to FIG. 147, the IPAM server works in conjunction with the citation root tree 14712 to facilitate the evaluate/analyze stage 14604 (as Tool 10b), the due diligence stage 14606 (as Tools 10a and 10b) and the negotiation

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stage 14608 (as Tools 10a and 10b). Nested patent citation trees (or citation root trees) are described in detail in the patent and applications referenced above in the section entitled "Cross-Reference to Other Patents and Applications." In general, during the merger and acquisition process, the user company can look at the citation root tree 14712 to predict related technology/markets under exploration by other companies. Patents lag the technology due to the inherent delays in patent prosecution. Thus, if the user finds a very recent patent, it may not have any forward citations since any patents that might cite it are months or years away from issuing. Thus, it would not be possible to see how the technology is developing relative to this patent since it has no forward citations.

This tool utilizes a technique that involves going back one or more generations from a given patent, and then performing forward citations on the prior generations. This identifies a patent family that is a result of a unique combination of backwards and forwards citation processing. The resulting tree indicates who is involved, and which fields are probably around the base patent. It's an approach to look into the future of a given technology (how the technology may develop in the future). Date contours (or contours according to some other criteria) is also applicable with this tool (and with all hyperbolic trees generated by the invention).

A. Tool 10a and the Due Diligence Stage and the Negotiation Stage

FIG. 162 illustrates the citation root tree 14712, used in the due diligence stage 14606 and the negotiation stage 14608, as Tool 10a, entitled "Citation Root-Tree." The purpose of Tool 10a is to show which other companies are pursuing similar technology. The citation root tree 14712 identifies how fast the technical area is moving and how many companies are involved. These companies must be evaluated further by the merger and acquisition team to determine the level of the opportunity or threat these closely linked companies represent to the merger. In addition, the citation root tree 14712 identifies if these

inventions occurred in the same patent class/subclass or in a different area. Current year versus the most cited patent identifies the most current development work building off of the same technology. How the IPAM server works in conjunction with the citation root tree 14712 to aid in the due diligence stage 14606 and the negotiation stage 14608 is described next with reference to FIG. 163. Typically, Tool 10a is initiated by the user selecting a citation root tree function on the computer screen.

In FIG. 163, a flowchart 16300 begins at step 16302. In step 16302, in an embodiment of the present invention a user performs a search on the group of the user company's patents that address the user company's fastest moving technology areas. These patents may include U.S., European, and Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 16304.

In step 16304, the IPAM server determines the prior generation patent of each patent produced in step 16302 (e.g., goes back one citation for each patent). Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to reverse citation are shown in FIGs. 276-280. The present invention is not limited to these exemplary user interfaces. Control passes to step 16306.

In step 16306, the IPAM server takes the group of patents produced in step 16304 and further performs three forward citations on each of the patents to create a citation root tree 14712. The nodes in the citation root tree 14712 may be color coded by assignee to allow the user to pick out color patterns easily. Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to forward citation are shown in FIGs. 281-285. The present invention is not limited to these exemplary user interfaces. The flowchart 16300 ends at this point.

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B. Tool 10b and the Evaluate/Analyze Stage, the Due Diligence Stage and the Negotiation Stage

FIG. 164 illustrates the citation root tree 14712, used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608, as Tool 10b, entitled "Patent Citation Root-Tree." The implication of Tool 10b is that the company acquiring the patent may have an opportunity to sub-license further, and thereby mitigate or influence the value paid for the merger. The citation root tree 14712 shows which companies' competitive intelligence department should do a preliminary investigation for possible infringing products and services. The citation root tree 14712 also shows other companies that might be interested in sub-licensing the art, thus generating extra cash flow and value from the merger. How the IPAM server works in conjunction with Tool 10b is similar to Tool 10a. Here, for the user company's fastest moving technology areas, patents in these areas are analyzed for spill-over technology drift.

VII. IPAM Server and Citation Count Report

Referring to FIG. 147, the IPAM server works in conjunction with the citation count report 14714 to facilitate the evaluate/analyze stage 14604 and the due diligence stage 14606 (as Tool 4). In general, the citation count report 14714 identifies frequently cited patents having the most value in the portfolio. FIG. 220 illustrates the citation count report 14714, used in the evaluate/analyze stage 14604 and the due diligence stage 14606, as Tool 4, entitled "Citation Count Report 1st Level on U.S. Patents." The purpose of Tool 4 is to create a report that identifies patents that have been frequently cited in the 1st level forward. This will identify the most valuable patents in Company A's portfolio to further investigate in the due diligence stage 14606. How the IPAM server works in conjunction with the citation count report 14714 to aid in the the evaluate/analyze stage 14604 and the due diligence stage 14606 is described with

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reference to FIG. 166. Tool 4 is typically initiated by the user selecting a citation count report function on the computer screen.

In FIG. 166, a flowchart 16600 begins at step 16602. In step 16602, in an embodiment of the present invention a user performs a search on the group of all patents and/or applications. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 16604.

In step 16604, one forward citation is performed on each patent produced in step 16602. Control passes to step 16606.

In step 16606, the patents are sorted by assignee to produce the citation count report 14714 requested by the user. Flowchart 16600 ends at this point.

VIII. IPAM Server and Citation Frequency Graph

Referring to FIG. 147, the IPAM server works in conjunction with the citation frequency graph 14716 to facilitate the evaluate/analyze stage 14604 (as Tools 5 and 9) and the due diligence stage 14606 (as Tools 5 and 9). In general, the citation frequency graph 14716 identifies companies affected by merger.

A. Tool 5 and the Evaluate/Analyze Stage and the Due Diligence Stage

FIG. 167 illustrates the citation frequency graph 14716, used in the evaluate/analyze stage 14604 and the due diligence stage 14606, as Tool 5, entitled "Citation Frequency Graph." The purpose of Tool 5 is to identify frequently cited patents in both companies. The high columns (citation counts) identify several patents that have been frequently cited within the last five years, to further investigate in the due diligence stage 14606. Citation frequency is one indicator of importance of a patent as prior art to later inventions. How the

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IPAM server works in conjunction with the citation frequency graph 14716 to aid in the evaluate/analyze stage 14604 and the due diligence stage 14606 is described with reference to FIG. 168. Typically, Tool 5 is initiated by the user selecting a citation frequency function on the computer screen.

5 In FIG. 168, a flowchart 16800 begins at step 16802. In step 16802 in an embodiment of the present invention a user performs a search on the group of all patents and/or applications. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. The search performed is typically a boolean
10 and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 16804.

In step 16804, one forward citation is performed on each patent produced in step 16802. Control passes to step 16806.

15 In step 16806, the patents are sorted by year cited to produce the citation frequency graph 14716 requested by the user. Flowchart 16800 ends at this point.

B. Tool 9 and the Evaluate/Analyze Stage and the Due Diligence Stage

20 FIG. 169 illustrates the citation frequency graph 14716, used in the evaluate/analyze stage 14604 and the due diligence stage 14606, as Tool 9, entitled "Citation Frequency Graph Backward or Forward by Assignee." The purpose of Tool 9 is to identify the companies and patents that were cited in the development of Tool 8 citation tree backward 1 level. It identifies the citation frequency of these patents, and shows the work that came from these base patents.
25 It also shows that these competitors/collaborators have intertwined technology that the merger will have to negotiate. The citation frequency graph 14716 analyzes the ancestral prior art frequency citations. How the IPAM server works in conjunction with Tool 9 is similar to Tool 5, as described above.

FIG. 170 is an example report of patent velocity in US classes.

IX. IPAM Server and Citation Frequency Report

Referring to FIG. 147, the IPAM server works in conjunction with the citation frequency report 14718 to facilitate the evaluate/analyze stage 14604 (as Tools 6 and 7) and the due diligence stage 14606 (as Tools 6 and 7). In general, the citation frequency report 14718 identifies which patents from which companies have the most value.

Tool 6 and the Evaluate/Analyze Stage and the Due Diligence Stage

FIG. 171 illustrates the citation frequency report 14718, used in the evaluate/analyze stage 14604 and the due diligence stage 14606, as Tool 6, entitled "Citation Frequency Report." The purpose of Tool 6 is to identify frequently cited patents in both companies. The report identifies several patents that have been frequently cited within the last five years to further investigate for patent and business value. The citation frequency report 14718 identifies citation frequency by patent and year. How the IPAM server works in conjunction with the citation frequency report 14718 to aid in the the evaluate/analyze stage 14604 and the due diligence stage 14606 is described with reference to FIG. 172. Typically, Tool 6 is initiated by the user selecting a citation frequency report function on the computer screen.

In FIG. 172, a flowchart 17200 begins at step 17202. In step 17202 in an embodiment of the present invention a user performs a search on the group of all patents and/or applications. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Also in step 17200, one forward citation is done on each patent of the company. Control passes to step 17204.

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In step 17204, the patents from step 17202 are sorted by frequency cited. Control passes to step 17206.

In step 17206, the patents in each resulting subgroup are sorted by year to produce the citation frequency report 14718 requested by the user. Flowchart 17200 ends at this point.

Tool 7 and the Evaluate/Analyze Stage and the Due Diligence Stage

FIG. 173 illustrates the citation frequency report 14718, used in the evaluate/analyze stage 14604 and the due diligence stage 14606, as Tool 7, entitled "Citation Frequency by Assignee." The purpose of Tool 7 is to identify the frequency of citations by patent and assignee. The assignee list indicates who potential competitors and blockers of the merger might be. Tool 7 also identifies frequently cited patents by assignee in both companies. Tool 7 identifies several patents that have been frequency cited within the last 5 years to further investigate patent value. How the IPAM server works in conjunction with Tool 7 is similar to Tool 6, as described above.

X. IPAM Server and Patent Count/Year

Referring to FIG. 147, the IPAM server works in conjunction with the patent count/year 14720 to facilitate the evaluate/analyze stage 14604 (as Tools 12a, 12b and 13), the due diligence stage 14606 (as Tools 12a, 12b and 13), and the negotiation stage 14608 (as Tools 12a and 13). In general, the patent count/year 14720 identifies the intensity of development in portfolios.

A. Tool 12a and the Evaluate/Analyze Stage, the Due Diligence Stage and the Negotiation Stage

FIG. 174 illustrates the patent count/year 14720, used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation

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stage 14608, as Tool 12a, entitled "U.S. Patent Count/Year." The purpose of Tool 12a is to identify the level and rate of change in Company A's and Company B's U.S. patent portfolios. Tool 12a also identifies the intensity of the U.S. development efforts and issued patents in the company being reviewed for acquisition. Higher activity brings higher valuation. How the IPAM server works in conjunction with the patent count/year 14720 to aid in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 is described with reference to FIG. 175. Typically, Tool 12a is initiated by the user selecting a patent count/year function on the computer screen.

In FIG. 175, a flowchart 17500 begins at step 17502. In step 17502 in an embodiment of the present invention a user performs a search on the group of all patents. Here, because the user is just pointing at a broad field, the abstract of each patent and/or application is typically the section that is searched, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents. Control passes to step 17504.

In step 17504, the patents from step 17502 are sorted by year to produce the patent count/year 14720 requested by the user. Flowchart 17500 ends at this point.

B. Tool 12b and the Evaluate/Analyze Stage and the Due Diligence Stage

FIG. 176 illustrates the patent count/year 14720, used in the evaluate/analyze stage 14604 and the due diligence stage 14606, as Tool 12b, entitled "Patent Count/Year." The purpose of Tool 12b is to identify companies who have the competence to commercialize competing products to the proposed merger. The patent count/year 14720 identifies who has continuously developed the technology. It also identifies the level and rate of change in companies. How

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the IPAM server works in conjunction with Tool 12b is similar to Tool 12a, as described above.

C. Tool 13 and the Evaluate/Analyze Stage, the Due Diligence Stage and the Negotiation Stage

5 FIG. 177 illustrates the patent count/year 14720, used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608, as Tool 13, entitled "European Patent Count/Year." The purpose of Tool 13 is to identify the intensity of the European development efforts and issued patents in the company being reviewed for acquisition. In general, higher activity brings higher valuation. Tool 13 identifies the level of rate of change in
10 companies' European patent portfolios. How the IPAM server works in conjunction with Tool 13 is similar to Tool 12a, as described. Here, the search is conducted on European patents, but is not limited to this.

XI. IPAM Server and Application Count/Year

15 Referring to FIG. 147, the IPAM server works in conjunction with the application count/year 14722 to facilitate the due diligence stage 14606 and negotiation stage 14608 (as Tool 14). In general, the application count/year 14722 identifies level and rate of change in patent portfolios.

20 FIG. 178 illustrates the application count/year 14722, used in the due diligence stage 14606 and the negotiation stage 14608, as Tool 14, entitled "Patent Application Count/Year." The purpose of Tool 14 is to identify the intensity of recent development efforts in a company being reviewed for acquisition. The application count/year 14722 produce by Tool 14 compares the level and rate of change in one or more companies' patent portfolio. How the
25 IPAM server works in conjunction with the application count/year 14722 to aid in the due diligence stage 14606 and the negotiation stage 14608 is described

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with reference to FIG. 179. Typically, Tool 14 is initiated by the user selecting an application count/year function on the computer screen.

In FIG. 234, a flowchart 17900 begins at step 17902. In step 17902, in an embodiment of the present invention a user performs a search on the group of published patent applications, but is not limited to this. Here, because the user is just pointing at a broad field, the abstract of each patent is typically the section that is searched, but again is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of published applications. Control passes to step 17904.

In step 17904, the group of published applications that results from step 17902 is further divided into subgroups by assignee/company. Control then passes to step 17906.

In step 17906, the IPAM server is used in conjunction with recent patent applications chart 14716 to create a chart that indicates the top assignees/companies in a related area to the product, use and/or technology searched in step 17902. Here, the group of patents produced in step 17902 may be further divided into subgroups, with each subgroup having published applications filed in the same year and related to the idea to produce the application count/year 14722 requested by the user. At this point flowchart 17900 ends.

XII. IPAM Server and Patent Aging Graph

Referring to FIG. 147, the IPAM server works in conjunction with the patent aging graph 14724 to facilitate the due diligence stage 14606 (as Tools 15 and 16) and the negotiation stage 14608 (as Tools 15 and 16). In general, the patent aging graph 14724 identifies the number of years until patent expiration.

A. Tool 15 and the Due Diligence Stage and the Negotiation Stage

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FIG. 180 illustrates the patent aging graph 14724, used in the due diligence stage 14606 and the negotiation stage 14608, as Tool 15, entitled "Maturity of U.S. Patent Portfolio." The purpose of Tool 15 is to identify for one company (e.g., Company B) the number of years to patent expiration in another company's (e.g., Company A's) U.S. patent portfolio to depict which technologies are young and which technologies are old. Technologies that are young tend to bring value to a merger. Technologies that are old, or static, tend not to bring as much value to a merger. How the IPAM server works in conjunction with the patent aging graph 14724 to aid in the due diligence stage 14606 and the negotiation stage 14608 is described next with reference to FIG. 181. Typically, Tool 15 is initiated by the user selecting a patent aging function on the computer screen.

In FIG. 181, a flowchart 18100 begins at step 18102. In step 18102, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the company. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a technical area. Control passes to step 18104.

In step 18104, the IPAM server sorts the patents in the resulting group from step 18102 by years to expire to produce the patent aging graph 14724 requested by the user. At this point flowchart 18100 ends.

B. Tool 16 and the Due Diligence Stage and the Negotiation Stage

FIG. 182 illustrates the patent aging graph 14724, used in the due diligence stage 14606 and the negotiation stage 14608, as Tool 16, entitled "Maturity of European Patent Portfolio." The purpose of Tool 16 is to identify for one company (e.g., Company B) the number of years to patent expiration in another company's (e.g., Company A's) European patent portfolio to depict

which technologies are young and which technologies are old. Technologies that are young tend to bring value to a merger. Technologies that are old, or static, tend not to bring as much value to a merger. How the IPAM server works in conjunction with Tool 16 is similar to Tool 15, as described above with reference to FIG. 236. Here, in an embodiment of the present invention a user performs a search on the group of all European patents and/or applications owned by the company.

XIII. IPAM Server and U.S. Primary Class/Subclass

Referring to FIG. 147, the IPAM server works in conjunction with the U.S. primary class/subclass 14726 to facilitate the evaluate/analyze stage 14604 and the diligence stage 14606 (as Tool 19). In general, the U.S. primary class/subclass 14726 determines highest patent count by primary class/subclass.

FIG. 183 illustrates the U.S. primary class/subclass 14726, used in the evaluate/analyze stage 14604 and the diligence stage 14606, as Tool 19, entitled "U.S. Primary Class/Subclass." The purpose of Tool 19 is to identify the primary class/subclass of the U.S. patent in one or more companies to depict their area of patent concentration. The area of patent concentration is checked for consistency with the strategic intent during the due diligence stage 14606. How the IPAM server works in conjunction with the U.S. primary class/subclass 14726 to aid in the evaluate/analyze stage 14604 and the due diligence stage 14606 is described next with reference to FIG. 184. Typically, Tool 19 is initiated by the user selecting a U.S. primary class/subclass function on the computer screen.

In FIG. 184, a flowchart 18300 begins at step 18302. In step 18302, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the company. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a

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boolean and/or natural language search on a technical area. Control passes to step 18304.

In step 18304, the IPAM server sorts the patents in the resulting group from step 18302 by primary class. Control then passes to step 18306.

5 In step 18306, the IPAM server sorts the patents in each resulting subgroup from step 18304 by subclass to produce the U.S. primary class/subclass 14726 requested by the user. At this point flowchart 18300 ends.

XIV. IPAM Server and International Patent Class

10 Referring to FIG. 147, the IPAM server works in conjunction with the international patent class 14728 to facilitate the evaluate/analyze stage 14604 and the diligence stage 14606 (as Tool 19a). In general, the international patent class 14728 determines highest patent count by international class.

15 FIG. 185 illustrates the International patent class 14728, used in the evaluate/analyze stage 14604 and the diligence stage 14606, as Tool 19a, entitled "International Patent Class." The purpose of Tool 19a is to identify the international class of the European patents in one or more companies' portfolios to depict the area of patent concentration. The area of patent concentration is checked for consistency with the strategic intent during the due diligence stage 14606. How the IPAM server works in conjunction with the international patent class 14728 to aid in the evaluate/analyze stage 14604 and the due diligence stage 20 14606 is described next with reference to FIG. 186. Typically, Tool 19a is initiated by the user selecting a international patent class function on the computer screen.

25 In FIG. 241, a flowchart 18600 begins at step 18602. In step 18602, in an embodiment of the present invention a user performs a search on the group of all European patents owned by the company. The present invention is not limited to doing the search on European patents, but may include any patent and/or application that is classified by an international class. The search performed is

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typically a boolean and/or natural language search on a technical area. Control passes to step 18604.

In step 18604, the IPAM server sorts the patents in the resulting group from step 18602 by international class to produce the international patent class 14728 requested by the user. At this point flowchart 18600 ends.

XV. IPAM Server and Assignee Patent Count Report by Primary Class/Subclass

Referring to FIG. 147, the IPAM server works in conjunction with the assignee patent count report by primary class/subclass 14730 to facilitate the evaluate/analyze stage 14604 (as Tools 20 and 23) and the negotiation stage 14608 (as Tool 20). In general, the assignee patent count report by primary class/subclass 14730 provides an overall view of competitive landscape for both companies by class/subclass.

A. Tool 20 and the Evaluate/Analyze Stage and the Negotiation Stage

FIG. 187 illustrates the assignee patent count report by primary class/subclass 14730, used in the evaluate/analyze stage 14604 and the negotiation stage 14608, as Tool 20, entitled "Patent Count Report for Primary Class." The purpose of Tool 20 is to identify the top assignees in a primary class area by number of issued patents. This information represents where two or more companies rank in their overall competitive landscape in the particular patent class. In addition, Tool 20 highlights if a proposed merger will significantly broaden or deepen the patent portfolio, or not. This information may aid in a valuation point during negotiation of a merger or acquisition. How the IPAM server works in conjunction with the assignee patent count report by primary class/subclass 14730 to aid in the evaluate/analyze stage 14604 and the negotiation stage 14608 is described next with reference to FIG. 188. Typically,

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Tool 20 is initiated by the user selecting a assignee patent count report by primary class/subclass function on the computer screen.

In FIG. 188, a flowchart 18800 begins at step 18802. In step 18802, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the one or more companies (i.e., assignees). The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a technical area. Control passes to step 18804.

In step 18804, the IPAM server sorts the patents in the resulting group from step 18802 by primary class. In an embodiment of the present invention, the IPAM server may also sort each resulting subgroup by subclass. Control then passes to step 18806.

In step 18806, the IPAM server sorts the patents in the resulting grouping (or in each resulting subgroup) from step 18804 by assignee to produce the assignee patent count report by primary class/subclass 14730 requested by the user. At this point flowchart 18800 ends.

B. Tool 23 and the Evaluate/Analyze Stage

FIG. 189 illustrates the assignee patent count report by primary class/subclass 14730, used in the evaluate/analyze stage 14604 as Tool 23, entitled "Assignee Patent Count Report for Class/Subclass." The purpose of Tool 23 is to identify the top assignees in a particular class/subclass area by number of patents issued. This information represents where two or more companies rank in their overall competitive landscape in the particular patent class/subclass area. How the IPAM server works in conjunction with Tool 23 is similar to Tool 20, as described above.

XVI. IPAM Server and Patent Count Graph by Number of Patents

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Referring to FIG. 147, the IPAM server works in conjunction with the patent count graph by number of patents 14732 to facilitate the evaluate/analyze stage 14604 (as Tools 21 and 24). In general, the patent count graph by number of patents 14732 provides an overall view of competitive landscape for both companies by number of issued patents.

A. Tool 24 and the Evaluate/Analyze Stage

FIG. 191 illustrates the patent count graph by number of patents 14732 used in the evaluate/analyze stage 14604 as Tool 24, entitled "Patent Count Graph of Top Assignees in Patent Class/Subclass." The purpose of Tool 24 is to give one company a visual indication of its position and another company's position in the competitive landscape, in a specific primary class/subclass by number of issued patents. How the IPAM server works in conjunction with the patent count graph by number of patents 14732 to aid in the evaluate/analyze stage 14604 is described next with reference to FIG. 192. Typically, Tool 24 is initiated by the user selecting a patent count graph by number of patents function on the computer screen.

In FIG. 192, a flowchart 19200 begins at step 19202. In step 19202, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the one or more companies (i.e., assignees). The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a primary class Control passes to step 19204.

In step 19204, the IPAM server sorts the patents in the resulting group from step 19202 by subclass. Control then passes to step 19206.

In step 19206, the IPAM server sorts the patents in the resulting grouping (or in each resulting subgroup) from step 19204 by assignee to produce the patent

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count graph by number of patents 14732 requested by the user. At this point flowchart 19200 ends.

B. Tool 21 and the Evaluate/Analyze Stage

FIG. 190 illustrates the patent count graph by number of patents 14732 used in the evaluate/analyze stage 14604 as Tool 2, entitled "Patent Count Graph of Top Assignees in Class." The purpose of Tool 21 is to give one company a visual indication of its position and another company's position in the competitive landscape, in a specific primary class by number of issued patents.

How the IPAM server works in conjunction with Tool 21 is similar to Tool 24, as described above.

XVII. IPAM Server and Top Assignees Primary Class/Subclass by Percent of Total

Referring to FIG. 147, the IPAM server works in conjunction with the top assignees primary class/subclass by percent of total 14734 to facilitate the evaluate/analyze stage 14604 (as Tools 22 and 25). In general, the top assignees primary class/subclass by percent of total 14734 provides an overall view of competitive landscape for both companies by percent of total in class/subclass.

A. Tool 22 and the Evaluate/Analyze Stage

FIG. 193 illustrates the top assignees primary class/subclass by percent of total 14734 used in the evaluate/analyze stage 14604 as Tool 22, entitled "Top Assignees in Class by Percent of Total." The purpose of Tool 22 is to give one company a visual indication of its position and another company's position in the competitive landscape, within a specific primary class/subclass by percentage of total issued patents. How the IPAM server works in conjunction with the top assignees primary class/subclass by percent of total 14734 to aid in the

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evaluate/analyze stage 14604 is described next with reference to FIG. 194. Typically, Tool 22 is initiated by the user selecting a top assignees primary class/subclass by percent of total function on the computer screen.

5 In FIG. 194, a flowchart 19400 begins at step 19402. In step 19402, in an embodiment of the present invention a user performs a search on the group of all U.S. patents owned by the one or more companies (i.e., assignees). The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a primary class Control passes to step 19404.

10 In step 19404, the IPAM server sorts the patents in the resulting group from step 19402 by assignee. Control then passes to step 19406.

15 In step 19406, the IPAM server determines the percentage of total patents for each subgroup (by assignee) produced in step 19404 to produce the top assignees primary class/subclass by percent of total 14734 requested by the user. At this point flowchart 19400 ends.

B. Tool 25 and the Evaluate/Analyze Stage

20 FIG. 250 illustrates the top assignees primary class/subclass by percent of total 14734 used in the evaluate/analyze stage 14604 as Tool 25, entitled "Top Assignees in Class/Subclass by Percent of Total." The purpose of Tool 25 is to give one company a visual indication of its position and another company's position in the competitive landscape, within a specific primary class/subclass by percentage of total issued patents. How the IPAM server works in conjunction with Tool 25 is similar to Tool 22, as described above.

25 XVIII. IPAM Server and Months to Issue

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Referring to FIG. 147, the IPAM server works in conjunction with the months to issue 236 to facilitate the due diligence stage 14606 and the negotiation stage 14608 (as Tool 11). In general, the months to issue 236 indicates whether all of the art is at the negotiation table.

5 FIG. 195 illustrates the top assignees primary class/subclass by percent of total 14734 used in the evaluate/analyze stage 14604 as Tool 25, entitled "Top Assignees in Class/Subclass by Percent of Total." The implication of Tool 11 is to allow the due diligence team to investigate or ask about the art in prosecution and modify its stance and decisions accordingly. In general, top assignees
10 primary class/subclass by percent of total 14734 show average time patents in each technology area are hidden from the due diligence team's view. How the IPAM server works in conjunction with the top assignees primary class/subclass by percent of total 14734 to aid in the due diligence stage 14606 and the negotiation stage 14608 is described next with reference to FIG. 196. Typically,
15 Tool 11 is initiated by the user selecting a months to issue function on the computer screen.

In FIG. 197, a flowchart 19700 begins at step 19702. In step 19702, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. The present invention is not limited to doing the search on U.S.
20 patents, but may include European, Japanese (and other available) patents and/or applications. The search performed is typically a boolean and/or natural language search on a technical area. Control passes to step 19704.

In step 19704, the IPAM server sorts the patents in the resulting group from step 19702 by year to create subgroups of patents. Control passes to step
25 19706.

In step 19706, the IPAM server, for each patent in each of the subgroups created in step 19704, subtracts the patent's issue date from its filing date. Control then passes to step 19708.

In step 19708, the IPAM server calculates, for each subgroup of patents,
30 the average prosecution time for its patents and displays the results to the user to

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produce the months to issue 14736 requested by the user. Flowchart 19700 ends at this point.

XIX. IPAM Server and Features Grouping

Referring to FIG. 147, the IPAM server works in conjunction with the features grouping 14738 to facilitate the due diligence stage 14606 and the negotiation stage 14608 (as Tool 31). In general, the features grouping 14738 indicates whether certain products and/or services are covered by patents.

FIG. 198 illustrates the features grouping 14738 used in the due diligence stage 14606 and the negotiation stage 14608 as Tool 31, entitled "Features Grouping." The purpose of Tool 31 highlights which other products and services are using the company's patents. High level trends can be seen in these maps, showing that many or few products, and their customer features sets, are patent protected. This information affects the valuation during negotiation. In addition, the features grouping 14738 produces a map that can be viewed feature-by-feature and show competitive alternatives and how many products have properties closest to those claimed by the company's patents. How the IPAM server works in conjunction with the features grouping 14738 to aid in the general management of a business as Tool 31 is described next with reference to FIG. 199. Typically, Tool 31 is initiated by the user selecting a features grouping function on the computer screen.

In FIG. 199, a flowchart 19900 begins at step 19902. In step 19902, in an embodiment of the present invention a user performs a search on the groups of patents covering the company's own products and competitor's products and/or product attributes analyzed by reverse engineering the company's own products and competitor's products. The present invention is not limited to doing the search on this, but may include other available documents and/or attributes. Here, the search performed is typically a boolean and/or natural language search on

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product attributes which are sorted and grouped to create interactive maps of patented products or service features. Control passes to step 19904.

In step 19904, the IPAM server is used in conjunction with the features grouping chart 14738 to create a chart showing groupings of product and/or service features. Flowchart 19900 ends at this point.

XX. IPAM Server and Document Annotation

Referring to FIG. 147, the IPAM server works in conjunction with the document annotation 14740 to facilitate the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 (as Tool 32). In general, the document annotation 14740 allows for the immediate, linked, and searchable documentation of facts and ideas.

FIG. 200 illustrates the document annotation 14740 used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 as Tool 32, entitled "Document Annotation." The purpose of Tool 32 is to facilitate indexed knowledge that can be used to expedite individual assertion analysis activities as well as the efficiency of the assertion team's review meetings. These annotations document how each piece of information (patent, data sheet, press release, etc.) is related to the others. This cross-reference and information capture speeds the merger and acquisition process. How the IPAM server works in conjunction with the document annotation 14740 to aid in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 is described next with reference to FIG. 201. Typically, Tool 32 is initiated by the user selecting a document annotation function on the computer screen.

In FIG. 201, a flowchart 20100 begins at step 20102. In step 20102, in an embodiment of the present invention a user performs a search on the groups of patents and corporate documents, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or

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technology to produce a group of patents and/or corporate documents. Control passes to step 20104.

In step 20104, the IPAM server allows the user to make annotations on one or more of the patents and/or corporate documents in the group produced by step 20102. Flowchart 20100 ends at this point.

XXI. IPAM Server and Inventor Patent Count/Assignee

Referring to FIG. 147, the IPAM server works in conjunction with the inventor patent count/assignee 14742 to facilitate the evaluate/analyze stage 14604 (as Tools 27 and 28), the due diligence stage 14606 (as Tools 27 and 28) and the negotiation stage 14608 (as Tools 27 and 28). In general, the inventor patent count/assignee 14742 determines whether there are joint development agreements/ventures which may impact a possible merger.

A. Tool 27 and the Evaluate/analyze Stage, the Due Diligence Stage and the Negotiation Stage

FIG. 202 illustrates the inventor patent count/assignee 14742 used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 as Tool 27, entitled "Inventor Patent Count Report Company A Patents." The purpose of Tool 27 is to identify for Company B the key people in the development area. This helps to place value on the acquisition based on the continued employment of the key people identified. How the IPAM server works in conjunction with the inventor patent count/assignee 14742 to aid in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 is described next with reference to FIG. 203. Typically, Tool 27 is initiated by the user selecting a inventor patent count/assignee function on the computer screen.

In FIG. 203, a flowchart 20300 begins at step 20302. In step 20302, in an embodiment of the present invention a user performs a search on the groups

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of Company A's patents and corporate documents, but is not limited to this. The search performed is typically a boolean and/or natural language search on the product, use and/or technology to produce a group of patents and/or corporate documents. Control passes to step 20304.

5 In step 20304, the IPAM server sorts the group of resulting patents and/or corporate documents by inventor to produce the inventor patent count/assignee 14742 requested by the user. Flowchart 20300 ends at this point.

B. Tool 28 and the Evaluate/analyze Stage, the Due Diligence Stage and the Negotiation Stage

10 FIG. 204 illustrates the inventor patent count/assignee 14742 used in the evaluate/analyze stage 14604, the due diligence stage 14606 and the negotiation stage 14608 as Tool 28, entitled "Inventor Patent Count by Assignee for Company A." The purpose of Tool 28 is to identify for Company B possible joint development agreements/ventures between Company A and others. If such joint
15 development agreements/ventures exist, then due diligence must be done to determine if these possible joint development agreements/ventures pose a benefit or threat to the acquisition or merged companies. Here, multiple assignees that an inventor has developed with is revealed. How the IPAM server works in conjunction with Tool 28 is similar to Tool 27, as described above.

20 XXII. IPAM Server and Inventor Patent Count Graph

Referring to FIG. 147, the IPAM server works in conjunction with the inventor patent count graph 14744 to facilitate the due diligence stage 14606 and the negotiation stage 14608 (as Tool 29). In general, the inventor patent count graph 14744 identifies inventors with the most inventions in a portfolio.

25 FIG. 205 illustrates the inventor patent count graph 14744 used in the due diligence stage 14606 and the negotiation stage 14608, as Tool 29, entitled "Inventor Patent Count Graph." The purpose of Tool 29 is to provide Company

-137-

B with a visual indication of the inventors with the most inventions in Company A's patent portfolio. These inventors are crucial to the acquisition since their development efforts have contributed significantly to the success of Company A. Many times the retention of key inventors is a crucial negotiating factor in the acquisition. How the IPAM server works in conjunction with the inventor patent count graph 244 to aid in the due diligence stage 14606 and the negotiation stage 14608 is described next with reference to FIG. 206. Typically, Tool 29 is initiated by the user selecting an inventor patent count graph function on the computer screen.

In FIG. 206, a flowchart 20600 begins at step 20602. In step 20602, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on assignee to produce a group of patents. Exemplary screen shots of the user interface of the IPAM server to assist the user company in searches relating to inventors are shown in FIGs. 272-275. The present invention is not limited to these exemplary user interfaces. Control passes to step 20604.

In step 20604, the IPAM server generates an inventor patent count graph 244 that indicates the top inventors in Company A. Here, the group of patents produced in step 20602 are further subdivided into subgroups, with each subgroup having the same inventor. As with assignee information, the IPAM server may store the inventor information of patents in a meta-data field that will also need to be searched to determine the inventor information, but is not limited to this. Flowchart 20600 ends at this point.

XXIII. IPAM Server and Inventor Data

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Referring to FIG. 147, the IPAM server works in conjunction with the inventor data 14746 to facilitate the due diligence stage 14606 and the negotiation stage 14608 (as Tool 30). In general, the inventor data 14746 identifies the average number of inventors per patent.

5 FIG. 207 illustrates the inventor data 14746 used in the due diligence stage 14606 and the negotiation stage 14608, as Tool 30, entitled "Inventor Data." The purpose of Tool 30 is to identify the average number of inventors per patent. This will depict if the culture in Company A's developers is to work alone or in a team environment. Here, Company B is trying to determine if
10 Company A's culture will be a post-merger compatible fit for Company B's culture. How the IPAM server works in conjunction with the inventor data 14746 to aid in the due diligence stage 14606 and negotiation stage 14608 is described next with reference to FIG. 208. Typically, Tool 30 is initiated by the user selecting an inventor data function on the computer screen.

15 In FIG. 208, a flowchart 20800 begins at step 20802. In step 20802, in an embodiment of the present invention a user performs a search on the group of all U.S. patents. Here, because the user is just pointing at a broad field, the abstract of each U.S. patent is typically the section that is searched, but is not limited to this. The present invention is not limited to doing the search on U.S. patents, but
20 may include European, Japanese (and other available) patents and/or applications. Here, the search performed is typically a boolean and/or natural language search on assignee to produce a group of patents. Control passes to step 20804.

 In step 20804, the IPAM server determines the number of inventors for each patent in the resulting group of patents from step 20802. As with assignee
25 information, the IPAM server may store the inventor information of patents in a meta-data field that will also need to be searched to determine the inventor information, but is not limited to this. Flowchart 20800 ends at this point.

XXIV. Combination of the Tools or Methods

-139-

It is important to note that most, if not all, of the tools or methods described above may be combined to interactively go back and forth between different tools. The integration of tools discussed herein to facilitate the merger and acquisition process is limitless.

5 XXV. Conclusion

While various application embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present invention should not be limited by any of the above-described exemplary
10 embodiments.

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WHAT IS CLAIMED IS:

1. A method for assisting a user in at least one stage of a merger and acquisition process, comprising the steps of:

determining which stage of the merger and acquisition process the user is in;

determining a tool to assist in the stage; and

utilizing said tool to assist in the stage.

2. The method of claim 1, wherein the stages of the merger and acquisition process include identity targets stage, evaluate stage, due diligence stage and negotiation stage.

3. The method of claim 1, wherein said tool is comprised of one of topographic map, a features grouping chart, a portfolio actions map, a technology classification, a Standard Industrial Codes (SIC) classification, a patent count per year chart, an application count per year chart, a technology by company map, a patent citation tree, a nested patent citation tree, a product/patent/revenue table, document annotation, a corporate/dividends preference/cost table, a months to issue patents table, a core technologies map, a related markets map, a patent activity chart, a patent activity by company chart, a recent patent applications chart, and a time remaining on patents table, a radar diagram, a citation root tree, a citation count report, a citation frequency graph, a citation frequency report, a patent aging graph, a U.S. primary class/subclass, an international patent class, an assignee patent count report by primary class/subclass, a patent count graph by number of patents, a top assignees primary class/subclass by percent of total, an inventor patent count/assignee, an inventor patent count graph, and inventor data.

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4. A method for assisting a user in at least one stage of a licensing process, comprising the steps of:

determining which stage of the licensing process the user is in;

determining a tool to assist in the stage; and

5 utilizing said tool to assist in the stage.

5. The method of claim 4, wherein the stages of the licensing process include a portfolio analysis stage, an assertion analysis stage, a negotiation stage, a litigation stage, and a collection stage.

10 6. The method of claim 4, wherein said tool is comprised of one of topographic map, a features grouping chart, a portfolio actions map, a technology classification, a Standard Industrial Codes (SIC) classification, a patent count per year chart, an application count per year chart, a technology by company map, a patent citation tree, a nested patent citation tree, a product/patent/revenue table, document annotation, a corporate/dividends preference/cost table, a months to
15 issue patents table, a core technologies map, a related markets map, a patent activity chart, a patent activity by company chart, a recent patent applications chart, and a time remaining on patents table, a radar diagram, a citation root tree, a citation count report, a citation frequency graph, a citation frequency report, a patent aging graph, a U.S. primary class/subclass, an international patent class, an
20 assignee patent count report by primary class/subclass, a patent count graph by number of patents, a top assignees primary class/subclass by percent of total, an inventor patent count/assignee, an inventor patent count graph, and inventor data.

7. A method for assisting a user in at least one stage of the general management of a business process, comprising the steps of:

25 determining which stage of the general management of a business process the user is in;

determining a tool to assist in the stage; and

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utilizing said tool to assist in the stage.

8. The method of claim 7, wherein the stages of the general management of a business process include an embryonic stage, a growth stage, an expansion stage and a mature stage.

5 9. The method of claim 7, wherein said tool is comprised of one of topographic map, a features grouping chart, a portfolio actions map, a technology classification, a Standard Industrial Codes (SIC) classification, a patent count per year chart, an application count per year chart, a technology by company map, a patent citation tree, a nested patent citation tree, a product/patent/revenue table,
10 document annotation, a corporate/dividends preference/cost table, a months to issue patents table, a core technologies map, a related markets map, a patent activity chart, a patent activity by company chart, a recent patent applications chart, and a time remaining on patents table, a radar diagram, a citation root tree, a citation count report, a citation frequency graph, a citation frequency report, a
15 patent aging graph, a U.S. primary class/subclass, an international patent class, an assignee patent count report by primary class/subclass, a patent count graph by number of patents, a top assignees primary class/subclass by percent of total, an inventor patent count/assignee, an inventor patent count graph, and inventor data.

Flowchart of the Licensing Process

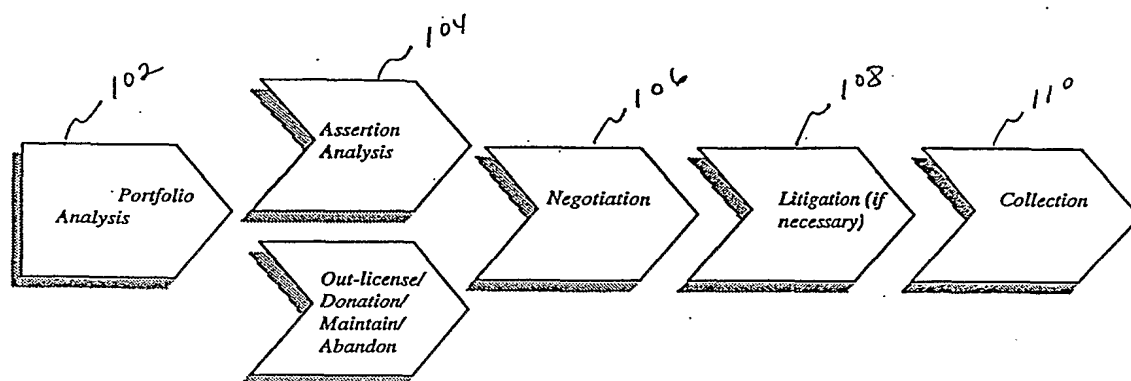


FIG. 1

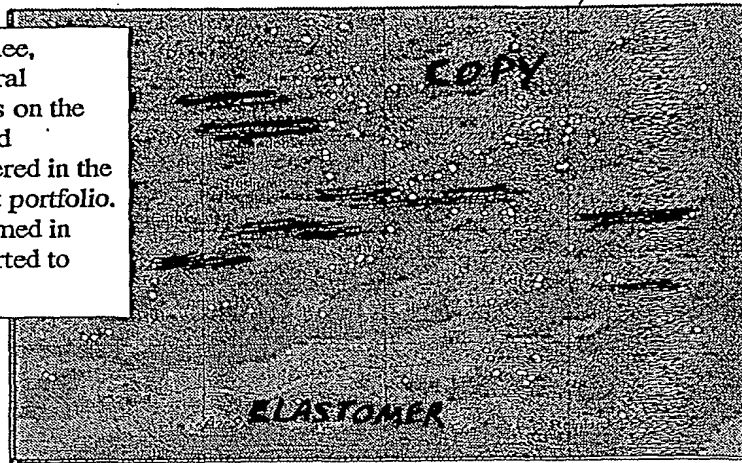
Reference Guide of Specific Tools

		Patent	Assertion			
		Portfolio	Analysis	Negotiation	Litigation	Collection
TOOLS		Review				
202~	Topographic map	Overall view of related art, uses, competitors	1	18	28	
204~	Features Grouping	Overall view of feature set to offer	2	19	29	
206~	Portfolio Action map	Overall view of what to do with specific patents in portfolio	3			
208~	Technology Classification	Which technical fields produce similar feature sets	4	20	30	
210~	SIC classification	Which market segments can use the product/services	5	21		37
212~	Patent count/year	How fast is product/use technology changing	12		31	
214~	Application count/year	Which other companies are active in project area	13	22		
216~	Technology by Company map	Technical assessment of serious competitors and partners	6	14	32	
218~	Patent Citation Tree	View of which companies are blocking and/or circumventing	7	15	23	33
220~	Nested Patent Citation Tree	Prediction of related technology/markets under exploration		16	24	
222~	Product/Patent/Revenue Table	Which products, and their revenue size, are protected by patents	8			
224~	Document Annotation	Linked, searchable documentation for negotiation	9	17	25	34
226~	Document Annotation Ranked list of inventors			26	35	
228~	Months to Issue Patents	Is all art at the negotiation table	10	27		
230~	Time Remaining on Patents	How long is art protected by patents	11		36	38

FIG. 2

#1 Topographic Map

Created by assignee,
boolean and natural
language searches on the
products, uses and
technologies covered in the
company's patent portfolio.
This group is formed in
Aureka and exported to
Cartia.



Map shows dominance of company's portfolio and identifies whether to posture the licensing department to approach infringers with a "targeted assertion" [specific patent claim-Genentech/BTG approach] or "there has to be a problem in here somewhere" [dominant portfolio-Lucent/IBM approach] capability.

FIG. 3

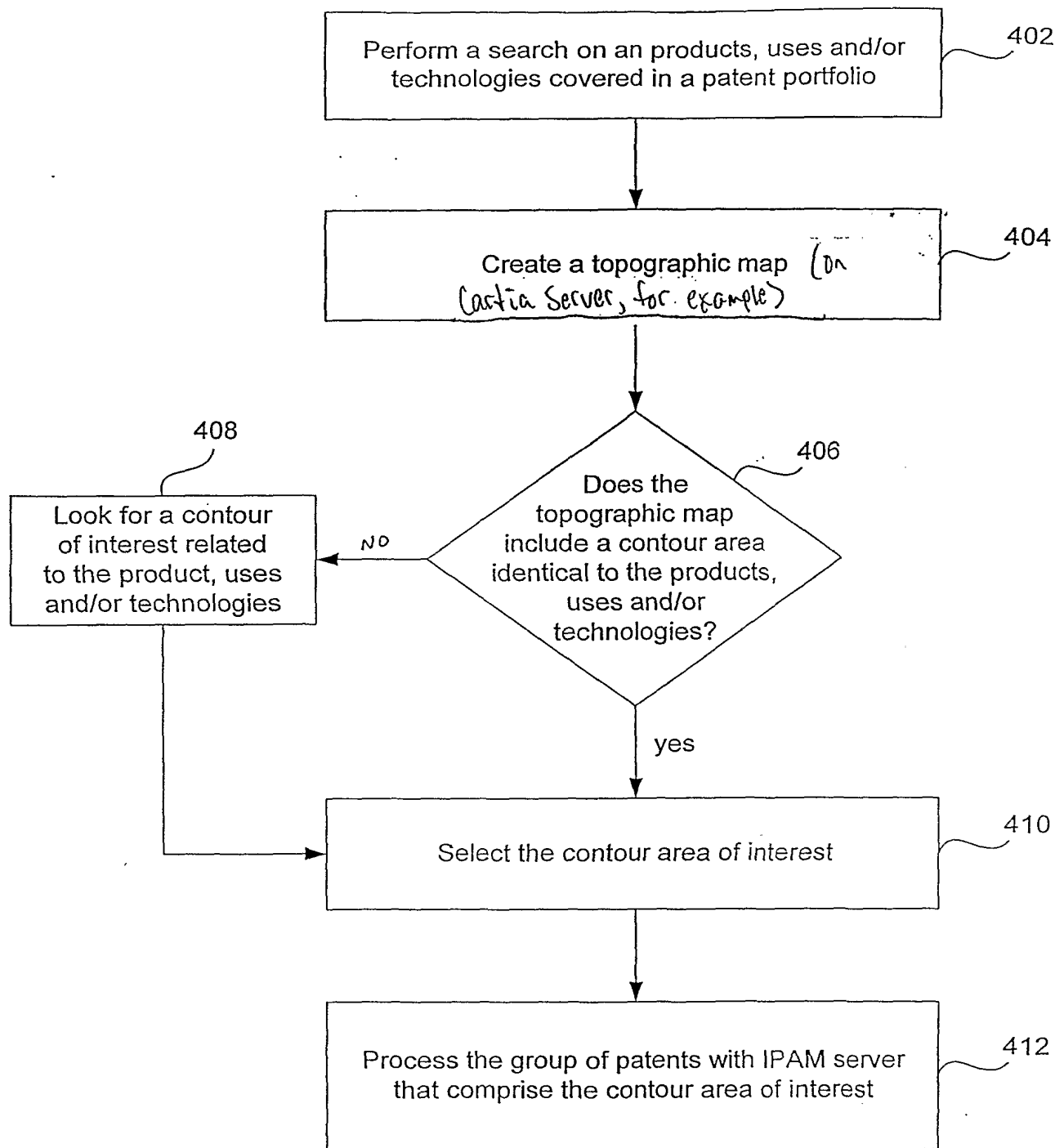
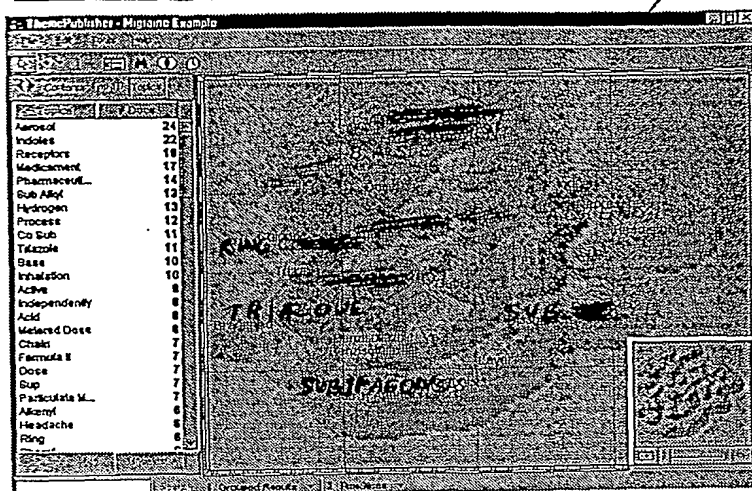


FIG. 4

#18 Topographic Map

Created as explained in #1



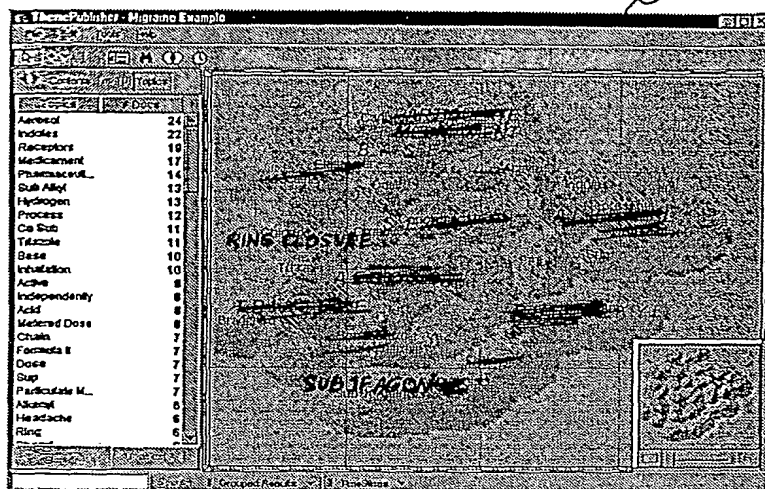
Cartia's ThemeScape creates conceptual visualizations of similar technologies and markets. The x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group. The major concepts represented by this map are the drug entities, formulations, and delivery means related to migraine headaches.

During the negotiation process these maps show the other party the breadth of a large portfolio so they are likely to take a license rather than incur the expense of looking through the entire estate as a prelude to litigation. During a friendly negotiation the parties can show how the art under negotiation is in the "white space" or "in a distinctive area". This aids in understanding the environment around the art and therefore the value of the art under discussion.

FIG. 5

#28 Topographic Map

Created as explained in #1



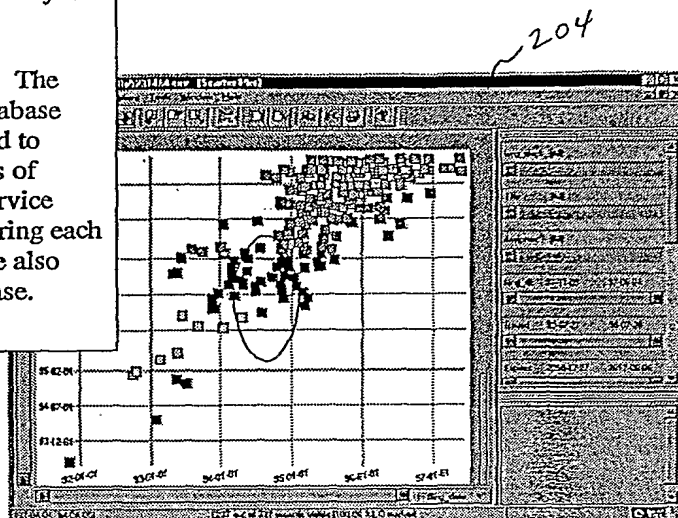
Cartia's ThemeScape creates conceptual visualizations of similar technologies and markets. The x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group. The major concepts represented by this map are the drug entities, formulations, and delivery means related to migraine headaches.

During the litigation process these maps show the other party the breadth of a large portfolio so they are likely to take a license rather than continue the expense of litigation. When using the time-slices feature the judge can be shown how the defendant followed the plaintiff into technology and market areas, thus aiding in showing the case for triple damages.

FIG. 6

#2 Features Grouping

Product attributes are analyzed by reverse engineering company's own and competitor's products. The results are put in a database and sorted and grouped to create interactive maps of patented product or service features. Patents covering each product and feature are also entered into the database.



The maps can be looked at feature-by-feature and they show the competitive alternatives and how many products have properties closest to those claimed by the company's patents.

The maps highlight the likelihood that other products and services are using the company's patents. The products in question can quickly be passed along for further assertion analysis before approaching a potential infringer. High level trends can be seen in these maps showing a tendency of on company to be possibly infringing another's patents on a broad (many) or narrow (few) scale.

FIG. 7

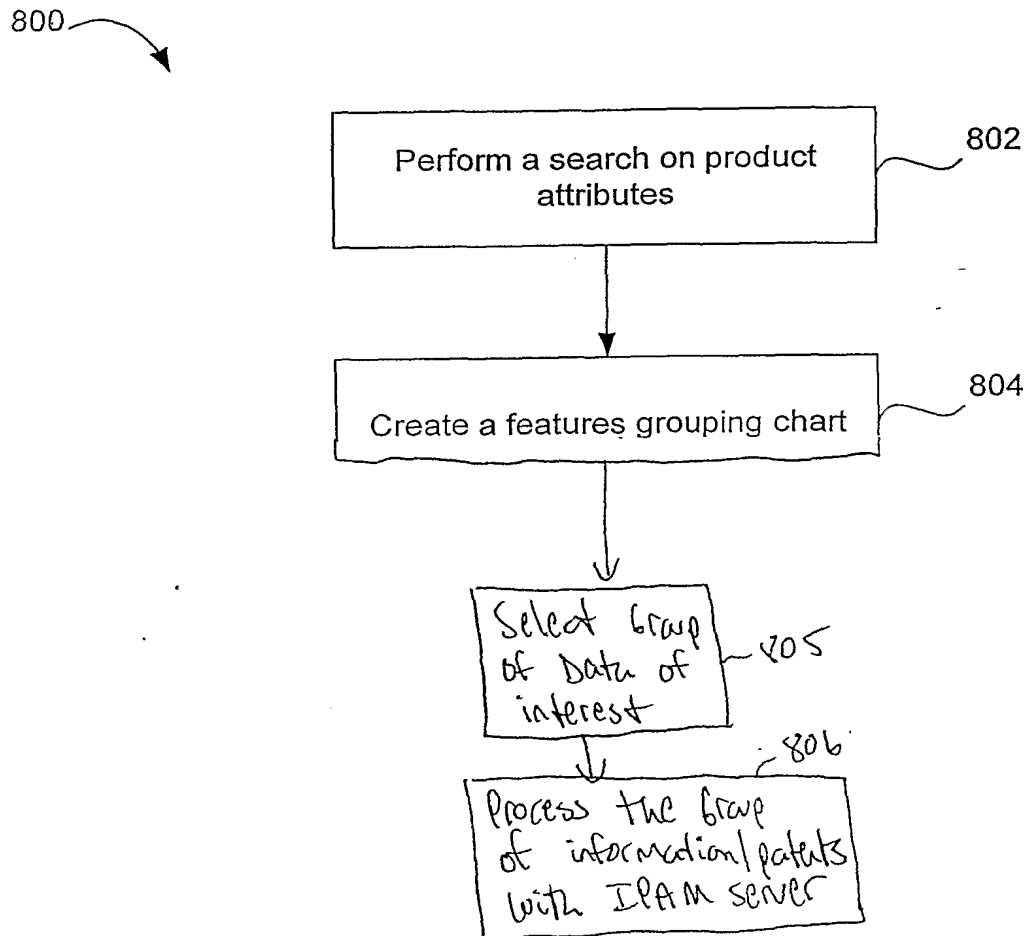
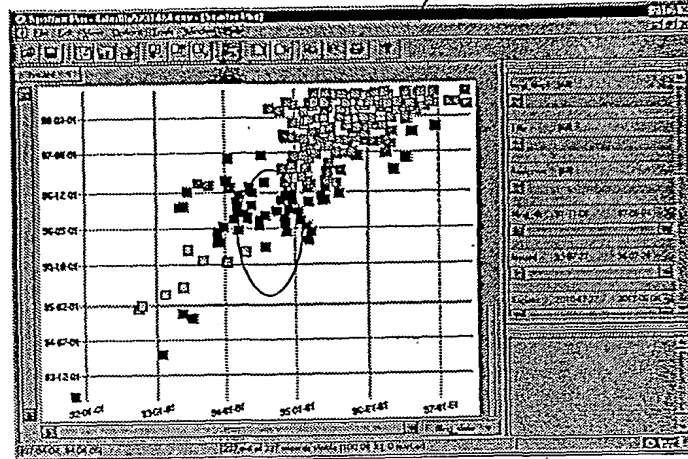


FIG. 8

#19 Features Grouping

The graphs are prepared as in #2



The maps can be looked at feature-by-feature and they show the other party the how their products contain the feature sets covered by the company's patents.

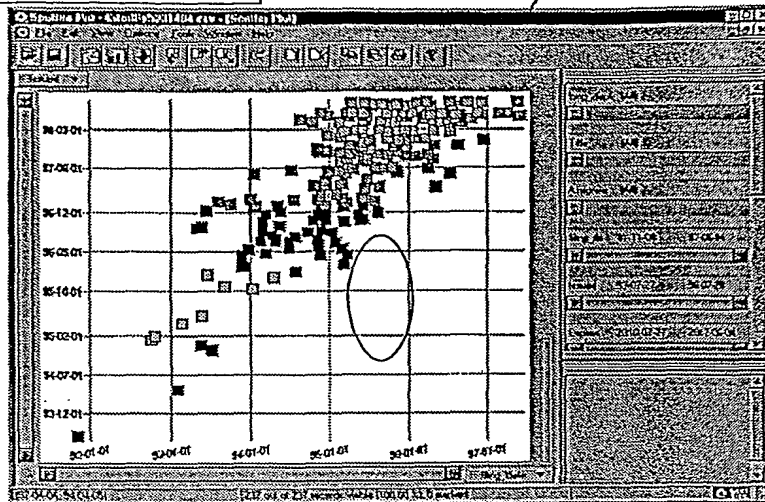
The maps highlight the fact that the other company's products or services are using the company's patents. This aids in quickly settling the infringement presumption. High level trends can be seen in these maps showing a tendency of the other company to be infringing the company's patents on a broad (many) or narrow (few) scale. This aids in coming to a quick settlement.

FIG. 9

#29 Features Grouping

The graphs are prepared as in #2

204



The maps can be looked at feature-by-feature and they show the judge how the other party's products contain feature sets covered by the company's patents.

During litigation the maps highlight for the judge, the fact that the other company's products or services are using the company's patents. This aids in quickly settling the infringement presumption. High level trends can be seen in these maps showing a tendency of the other company to be infringing the company's patents on a broad (many) or narrow (few) scale. This aids in coming to a quick settlement.

FIG. 10

#3 Portfolio Action Map

Shows Decision Model for Patent Portfolio

Created by searching for the company's patents, making a group, sorting the group into which business it pertains to by dragging and dropping the patent from the center pane into folders corresponding to each business division. These business division folders and then opened into the center pane, the patents viewed one by one, and dragged and dropped into sub-folders corresponding to the BU & corporate direction. Plotting patents on grid and apply template

Business Cycle	Business Unit and Corporation Direction			
		Commercial	Strategic	Potentially Strategic
	Growth Business	Seek CIP's		
	Core Business		Maintain	Publish
	Mature Business		Abandon	

206

The implication is that a small team can immediately assign patents to a specific course of action in a fraction of the time required by traditional means of analyzing the paper version of the patents by a few individuals

FIG. 11

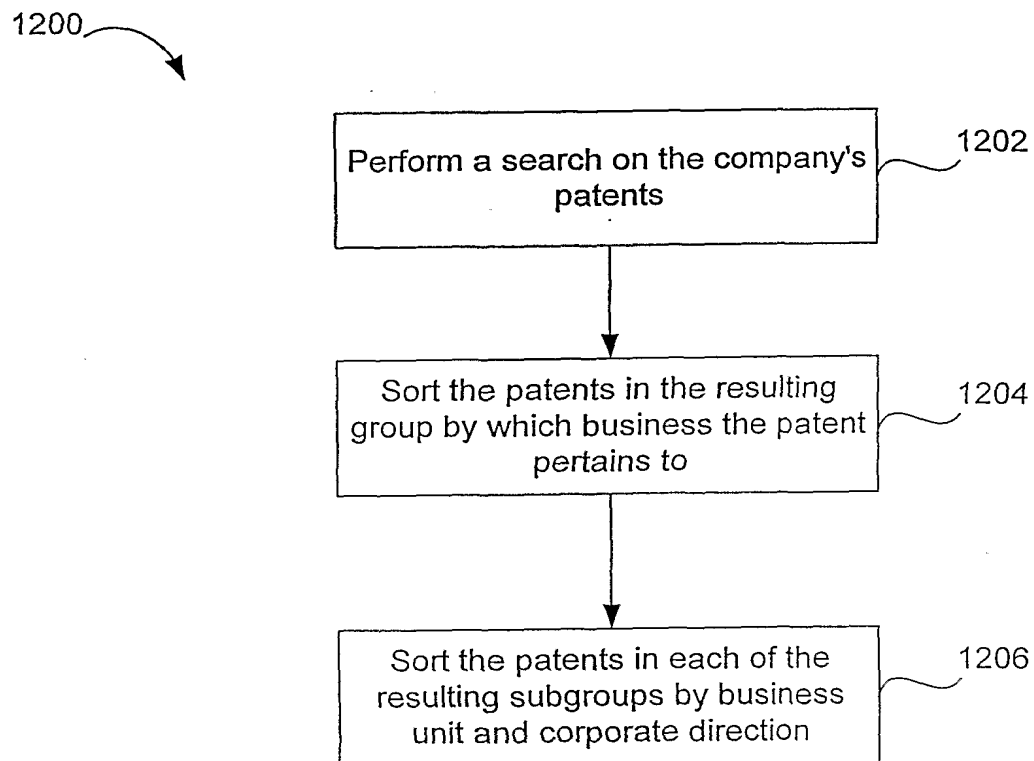
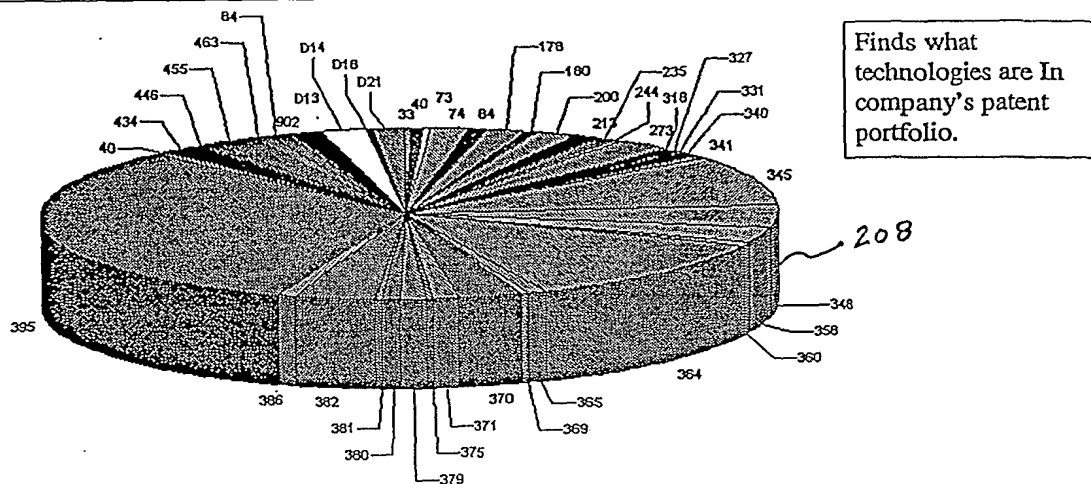


FIG. 12

#4 Technology Classification

This is created by searching the company's patents, and then exporting the results to Excel and graphing using the graph wizard to create a listing graph of the patent classifications



This chart gives the company a visual indication of their core technologies, which are well covered and which sparse. Comparing this chart to the strategic intent of the company identifies technologies to have R&D build upon to make more robust, which to license out because they are not strategic.

FIG. 13

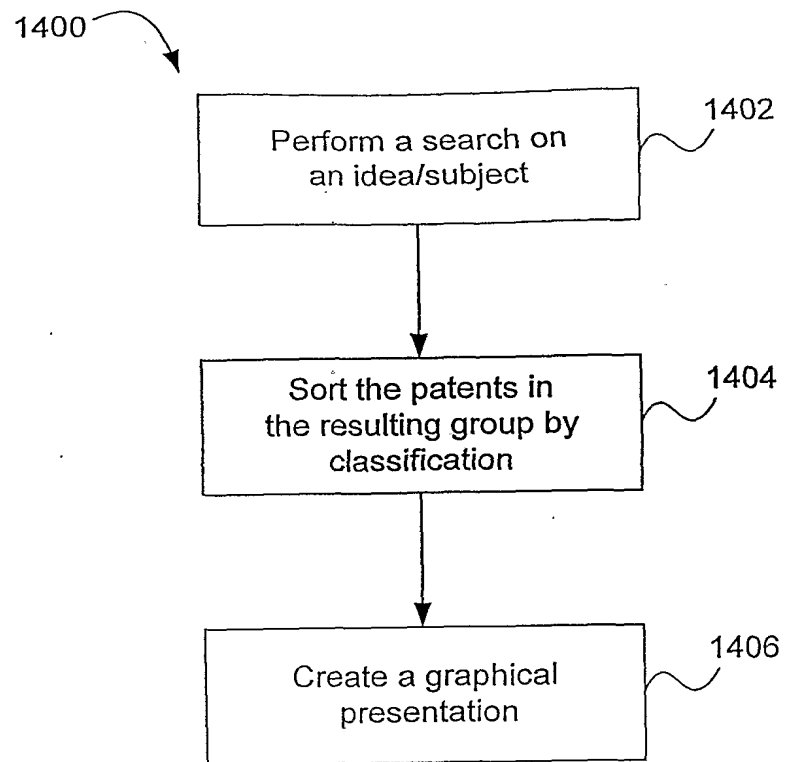
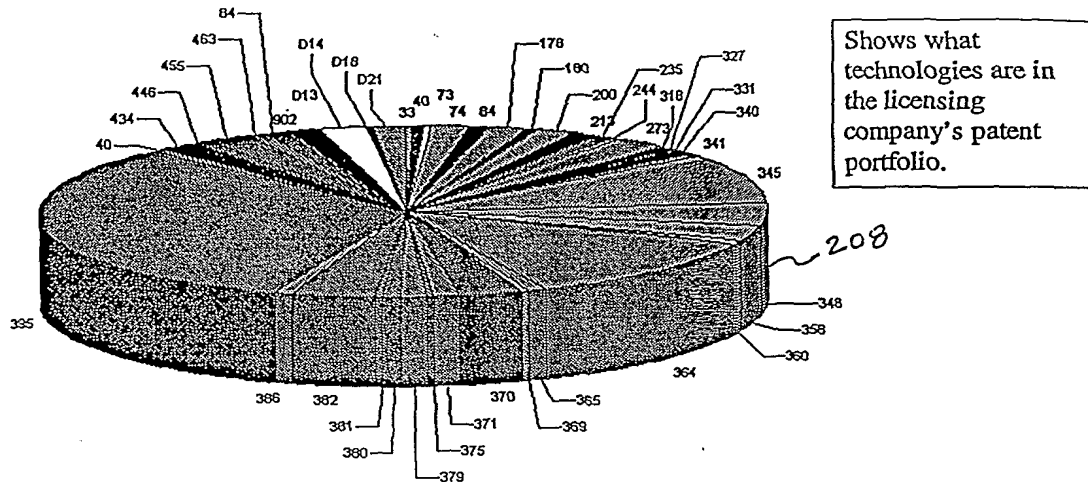


FIG. 14

#20 Technology Classification

This is created in the same manner as #4

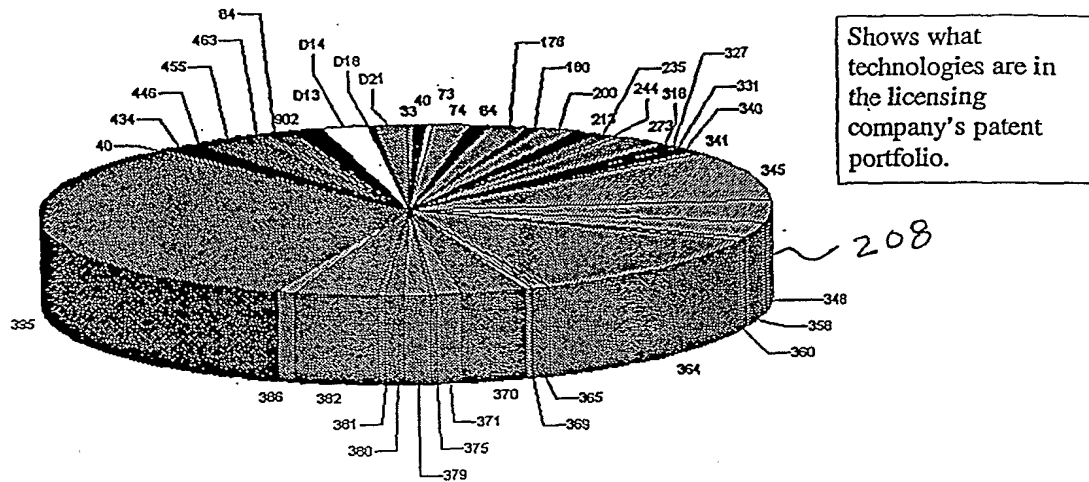


This chart gives the other company a visual indication of their core technologies, and how taking a license to the company's patents will improve the scope of their coverage. In unfriendly negotiations it can show the scope of the company's patents in an area, implying the commitment the company has in enforcing its rights in these areas.

F ± 6.15

#30 Technology Classification

This is created in the same manner as #4

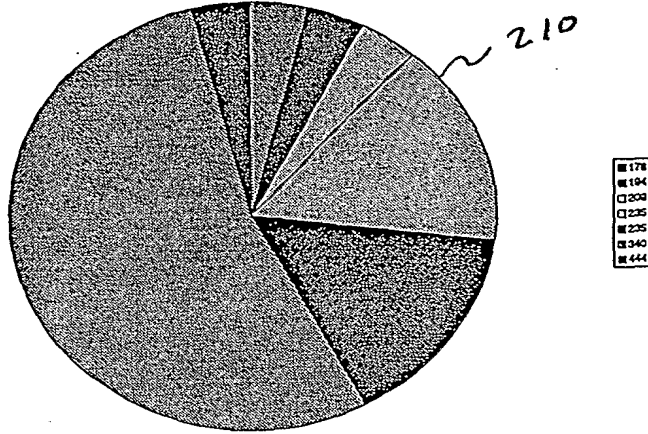


This chart gives the other company a visual indication of their core technologies, and how taking a license to the company's patents will improve the scope of their coverage. In unfriendly negotiations it can show the scope of the company's patents in an area, implying the commitment the company has in enforcing its rights in these areas.

FIG. 16

#5 SIC Classification

This chart is created from the same excel spreadsheet as #4 except that the classifications are run through a look-up table from a source such as the department of commerce patent/SIC concordance. The resulting SIC codes are graphed using the chart wizard.



This chart shows what markets are and might be using or interested in the company's patent portfolio

The impact of this analysis is to identify the scope and magnitude of potential infringers and licensees of company's patents

FIG. 17

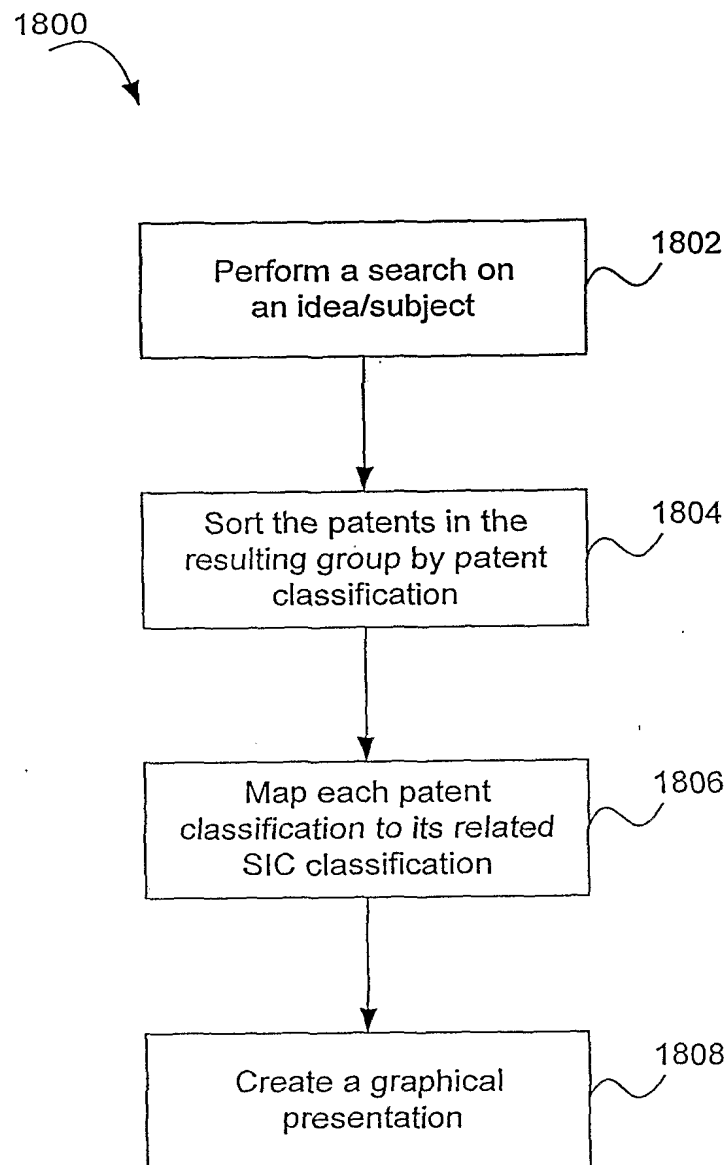
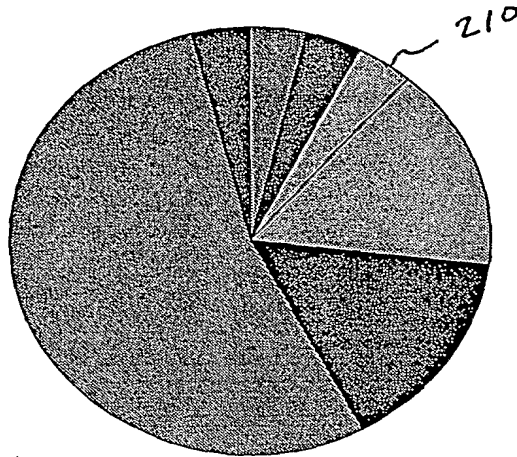


FIG. 18

#21 SIC Classifications

This chart is created by the same procedure as #5



This chart shows what markets and companies might be using or interested in the company's patent portfolio

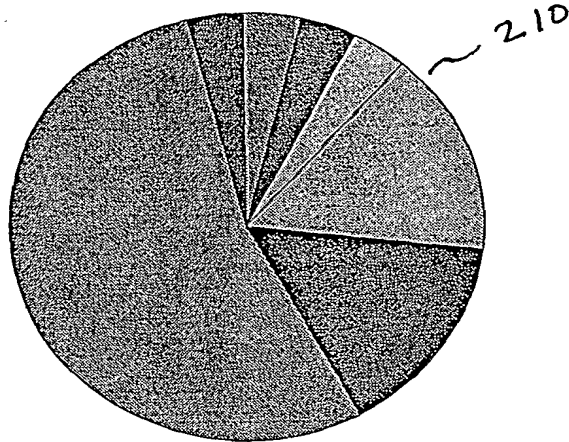
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This analysis identifies specific companies to approach for licensing the company's patents.

FIG. 19

#37 SIC Classifications

This chart is created by the same procedure as #5, but the size of the pie is created by the market size of the companies reported in each SIC code rather than the number of patents/references.



This chart shows the size of the markets and when the chart is redone each quarter/year, the change in size indicates the possibility of a change in licensing revenues due the company.

This analysis identifies the changing market size (revenue streams) associated with the licensed technology.

FIG. 20

#12 Patent count

This is created for each technology area of the company's patents. It is a standard report of the Aureka system.

Assignee - Patent Count Report for IPC class from patent

Assignee	Document Count
Shell Oil Company	32
E. I. Du Pont de Nemours and Company	31
Esso Chemical Patents Inc.	31
Bayer Aktiengesellschaft	27
BASF Aktiengesellschaft	24
The Dow Chemical Company	24
Nippon Paint Co., Ltd.	20
Dow Corning Corporation	19
The Goodyear Tire & Rubber Company	16
Minnesota Mining and Manufacturing Company	14
Shell Internationale Research Maatschappij B.V.	14
PPG Industries, Inc.	13
Kanagaki Kagaku Kogyo Kabushiki Kaisha	12
Monsanto Company	11
Alkermes Products and Chemicals, Inc.	10
Imperial Chemical Industries Limited	9
Suntomo Chemical Company, Limited	9
The B. F. Goodrich Company	9
Daiichi Chemical Industries, Ltd.	9
Esso Research & Engineering Co.	9
General Electric Company	9
Kansai Paint Co., Ltd.	8
Kuraray Co., Ltd.	8
Mitsui Petrochemical Industries, Ltd.	8
Shin-Etsu Chemical Co., Ltd.	8
American Cyanamid Company	7
Anso Corporation	7
Asahi Glass Company Ltd.	7
Eastman Kodak Company	7
Rohm and Haas Company	7
Tosoh Corporation	7
Union Carbide Corporation	7
Acelmont S.p.A.	6

This chart identifies who has technology and therefore is likely to have existing or older products in the same area as the company.

212

This chart identifies companies whose products should be scrutinized by data sheet and reverse engineering analysis for possible infringement

FIG. 21

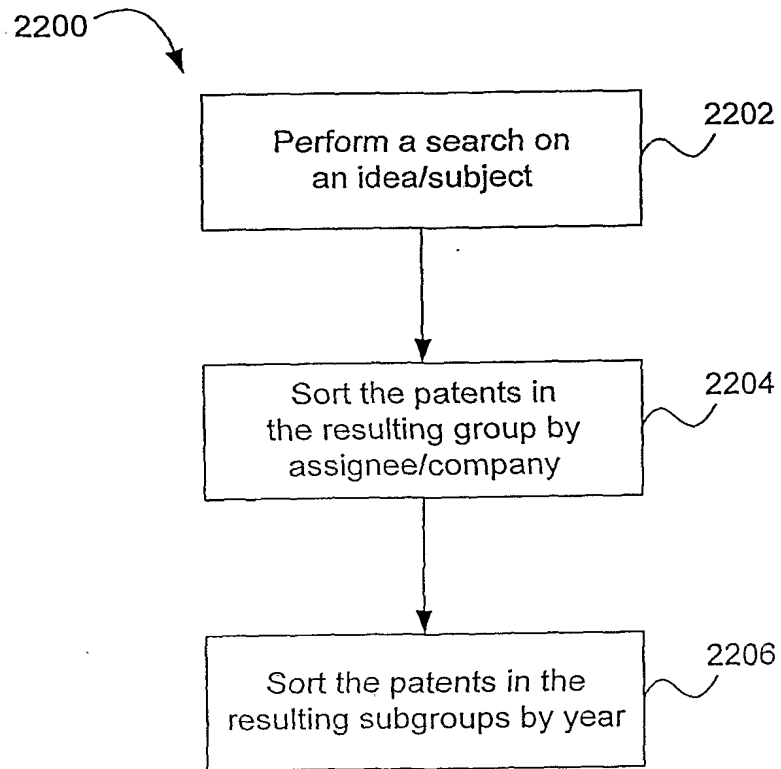
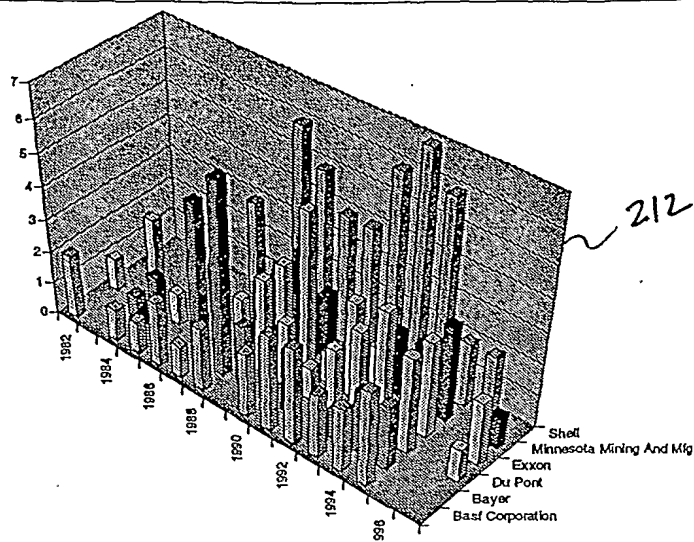


FIG. 22

#31 Patent count/year

This is created the same way as #12 except that the graphic is produced from the data and the year filed.



This chart identifies who has continuously developed the technology.

This chart identifies companies who had the competence to knowingly commercialize infringing products and thus liable for triple damages.

FIG. 23

#13 Application count

This is created for each technology area of the company's patents. It is a standard report of the Aureka system.

Assignee	Document Count
Amoco Chemical Patents Inc.	24
BASF Aktiengesellschaft	23
The Dow Chemical Company	12
The Lubrizol Corporation	12
Hoechst AG	6
Bayer Aktiengesellschaft	7
Chevron Chemical Company	6
Eastman Chemical Company	6
FMCI Corporation	6
Monsie, Basf	6
ODS Microelectronic Materials, Inc.	6
Vanova Resins GmbH	6
Ciba-Geigy AG	6
Cytec Technology Corp.	5
E.I. DU PONT DE NEMOURS AND COMPANY	5
Kanagafuchi Kagaku Kogyo Kabushiki Kaisha	5
Mocon Shokubai Co., Ltd.	5
ALCOA INTERNATIONAL CORPORATION	4
BP Chemicals Limited	4
KANEXA CORPORATION	4
MOBI OIL Corporation	4
Bruehl International Research Mastechapoff B.V.	4
ACTIVE MATERIALS INC.	3
BAYER AG	3
DARLING, ORAHAM, D.	3
E. I. Du Pont de Nemours and Company	3
Exxon Research & Engineering Co.	3
EXXON RESEARCH AND ENGINEERING COMPANY	3
FMCI CORPORATION	3
Minnesota Mining And Manufacturing Company	3
Mouri Petrochemical Industries, Ltd.	3
Mitsubishi YOSHIKI	3
Netscher, Manfred	3
NIIPPON ZEON CO., LTD.	3

This chart identifies who has filed applications for each technology and therefore is likely to have new or about to be launched products in the same area as the company.

This chart identifies companies whose new and just announced products should be scrutinized by data sheet and reverse engineering analysis for possible infringement

FIG. 24

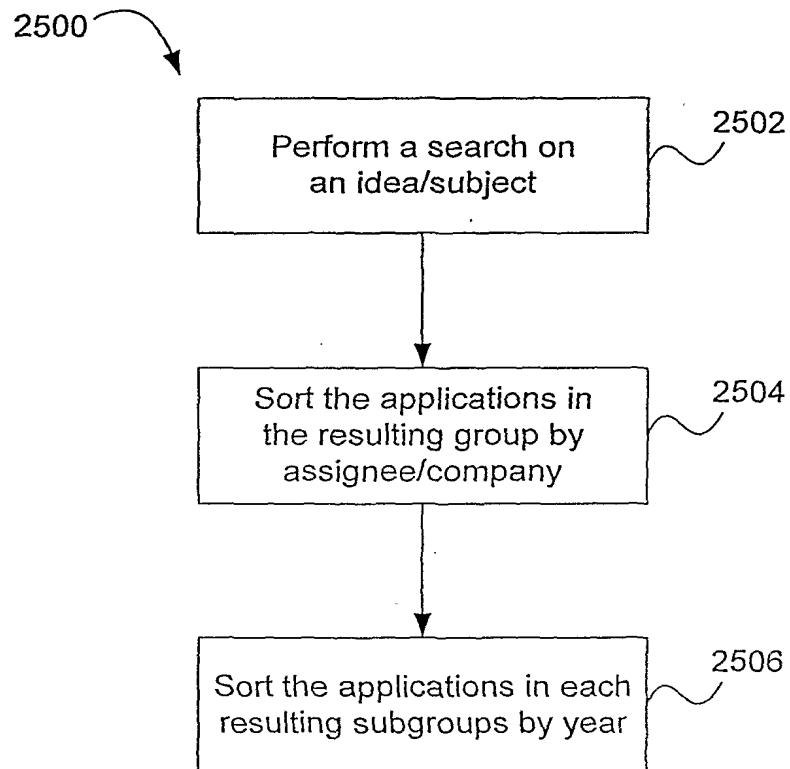


FIG. 25

#22 Application count/year

This is created the same way as #13 except that the graphic is produced from the data and the year filed.

Assignees - Patent Application Count Report for IPC class from patent - applications

Assignee	Document Count
Esso Chemical Patents Inc.	24
Bent Allengeseellschaft	23
The Dow Chemical Company	12
The Lubrizol Corporation	12
Hoechst AG	8
Bayer Allengeseellschaft	7
Chemtron Chemical Company	6
Eastman Chemical Company	6
Fluor Corporation	6
Monsie, B&B	6
OCG Microelectronic Materials, Inc.	6
Mitsubishi Chemical	6
Ciba-Geigy AG	5
Cytec Technology Corp.	5
E.I. DU PONT DE NEMOURS AND COMPANY	5
Kanaguchi Kagaku Kogyo Kabushiki Kaisha	5
Mitsui Tokei Kaisha, Ltd.	5
AMCOL INTERNATIONAL CORPORATION	4
BP Chemicals Limited	4
KANEKA CORPORATION	4
Mobil Oil Corporation	4
Shell Internationale Research Maatschappij B.V.	4
ACTIVE MATERIALS INC.	3
BAYER AG	3
DARLING, GRAHAM, D.	3
E.I. Du Pont de Nemours and Company	3
Esso Research & Engineering Co.	3
EXXON RESEARCH AND ENGINEERING COMPANY	3
Fluor Corporation	3
Minnesota Mining And Manufacturing Company	3
Mobil Petrochemical Industries, Ltd.	3
NAKADAMA, YOSHIO	3
Messner, Manfred	3
NIPPON ZEON CO., LTD.	3

This chart identifies who has filed applications for each technology and therefore is likely to have new or about to be launched products in the same area as the company.

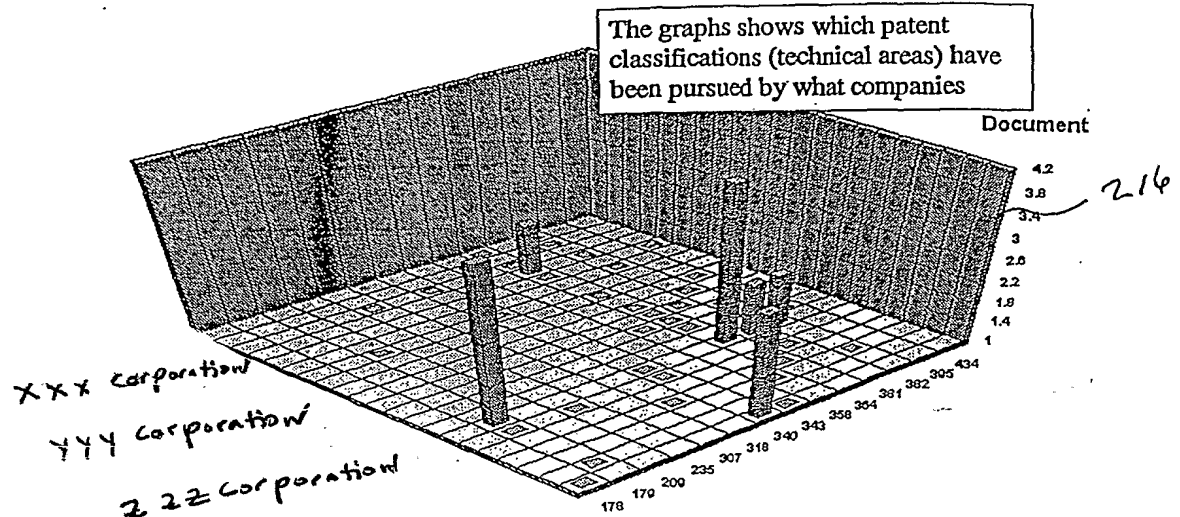
~ 214

This chart identifies companies whose possible interest in the technology area will be set-back by the other company taking a license from the licensing company.

FIG. 26

#6 Technology by company map

This report is run in Aureka Reports. It is the Patent Classification by Assignee



Identifies for the portfolio team if there is a single company, a few companies, or many companies that would make good license candidates For each area Of Company's Portfolio

F I 6 . 27

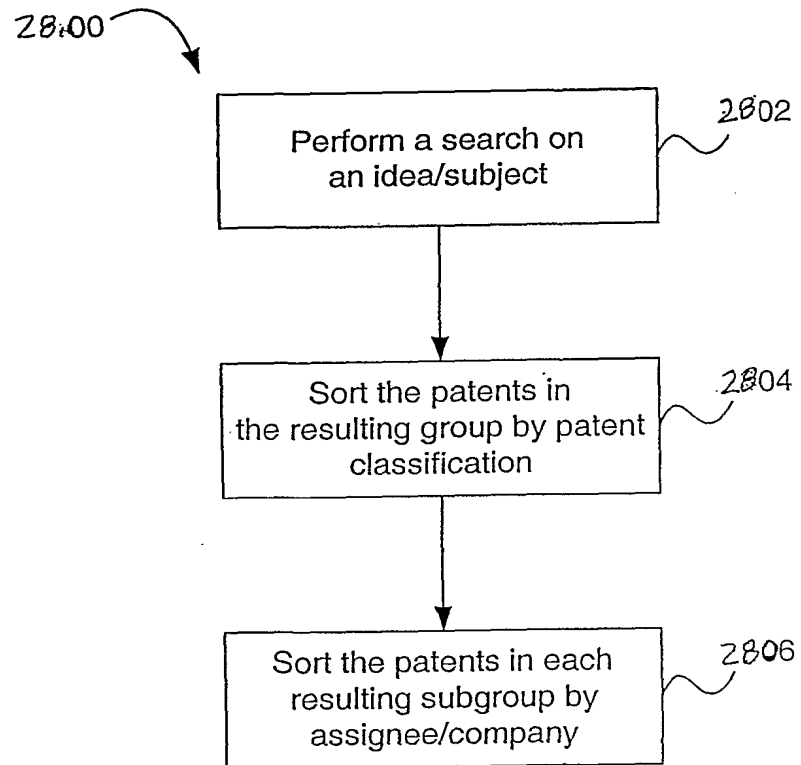
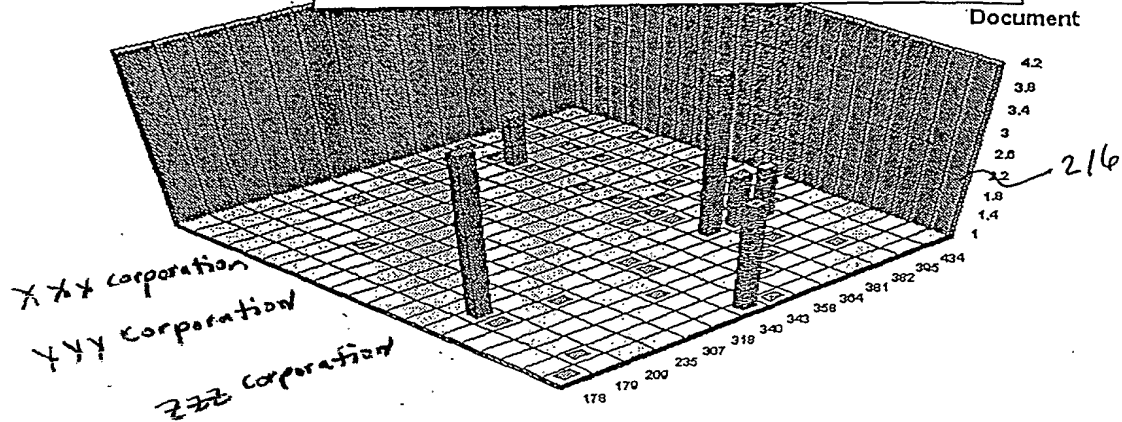


FIG. 28

#14 Technology by company map

This report is run in Aureka Reports. It is the Patent Classification by Assignee

The graphs shows which patent classifications (technical areas) that the company has patented have been also pursued specific other companies



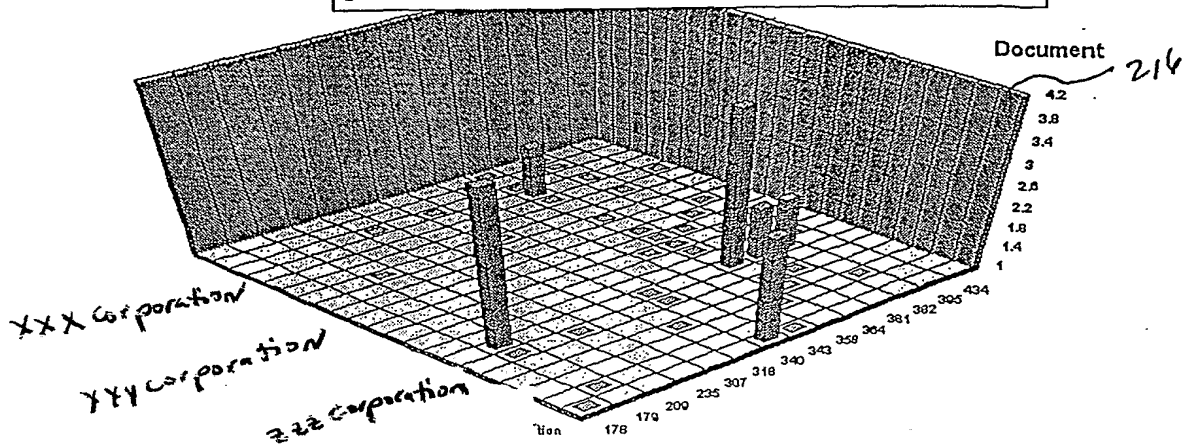
Identifies for the assertion team companies whose products are likely being made by similar means and for which manufacturing drift might lead to infringement. These companies products should be reverse engineered to check.

FIG. 29

#32 Technology by company map

This report is run the same way as #14

The graphs shows the judge that those patent classifications (technical areas) under dispute have not been claimed or pursued by the defendant.

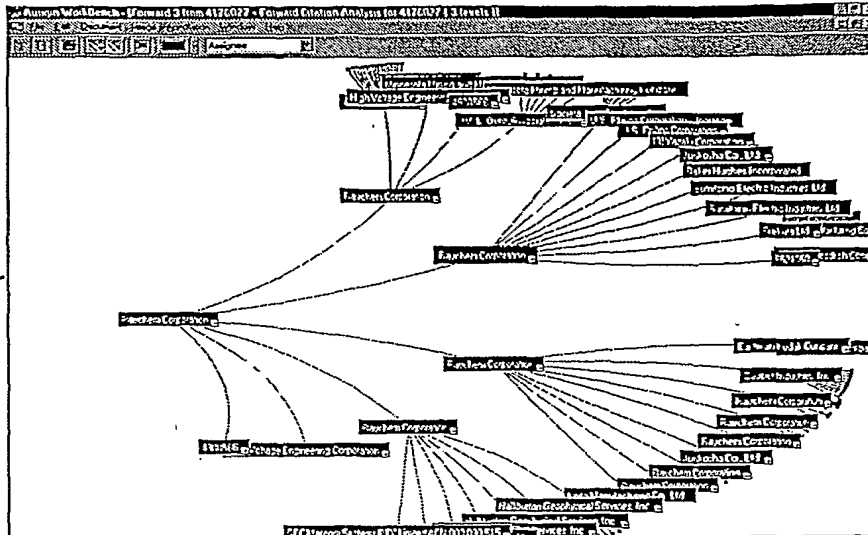


Identifies for the litigation team and judge those technical areas which are clearly the domain of the plaintiff.

FIG. 30

#7 Patent Citation Tree

This is created by running the citation frequency report for each patent class (technology area) of the company, then taking the most highly cited patent and running the forward citation analysis on it



This citation tree shows how unique, mature, expansive, and inner-related the technology is that stems from the patent being evaluated. When dates are put in the nodes it also shows the portfolio team how fast moving the various branches of the tree are growing.

The portfolio team can see at a glance if other companies are focused in a specific effort to work in just one branch of the technology, or are working in many areas. Companies working in many areas will be good candidates for an assertion and license out analysis.

FI 6.31

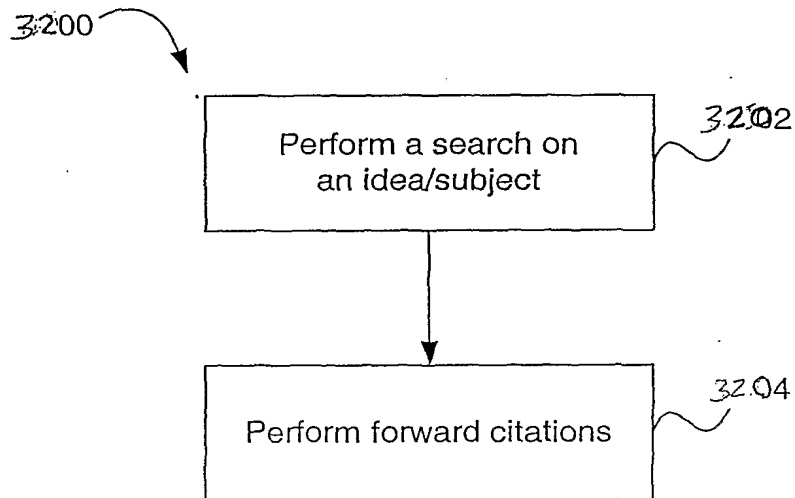
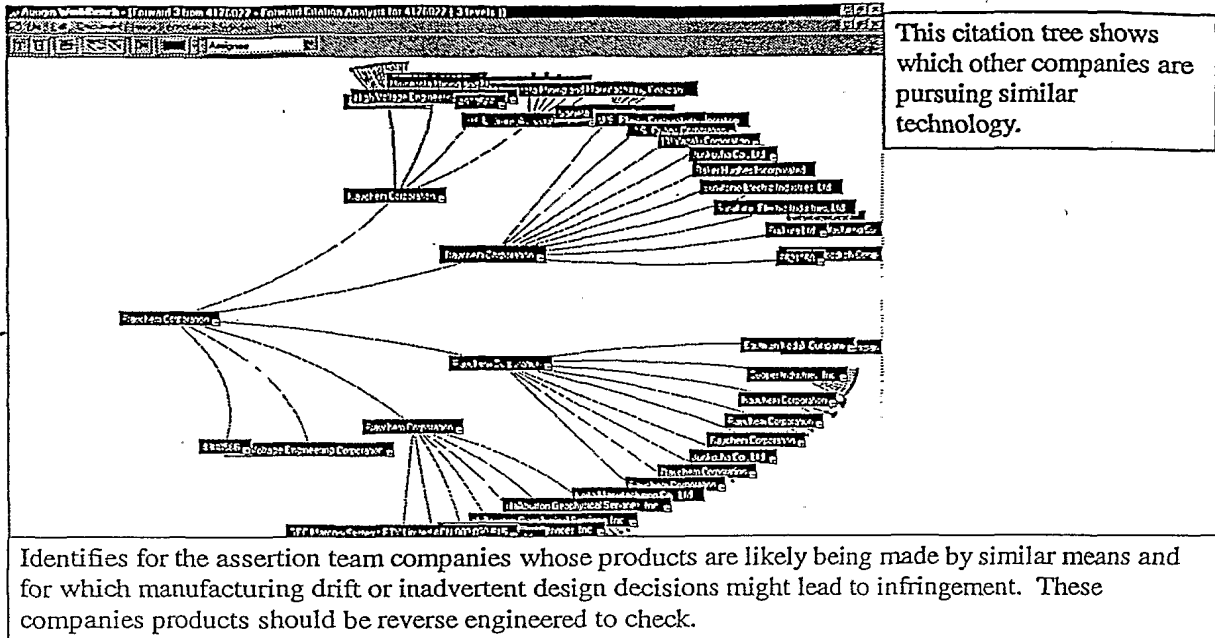


FIG. 32

#15 Patent Citation Tree

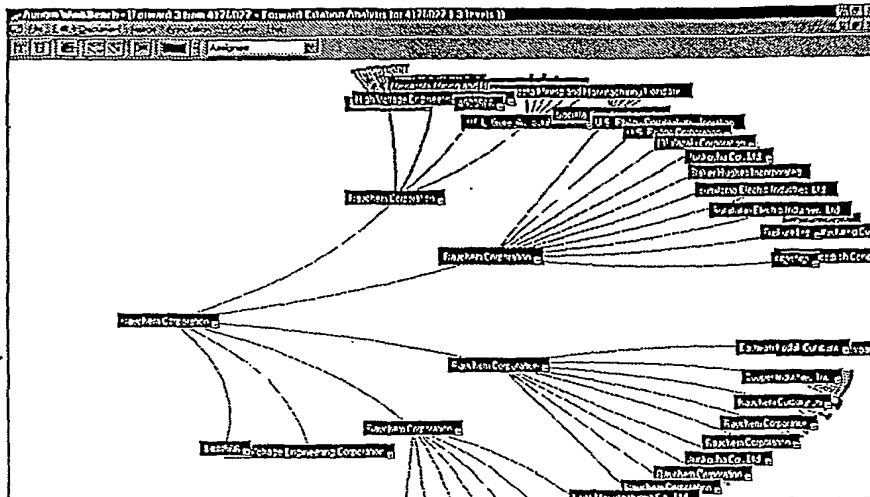
This is created by running the forward citation analysis for each patent of the company in the Aureka system.



Flag. 33

#23 Patent Citation Tree

This is created by running the forward citation analysis for each patent under negotiation



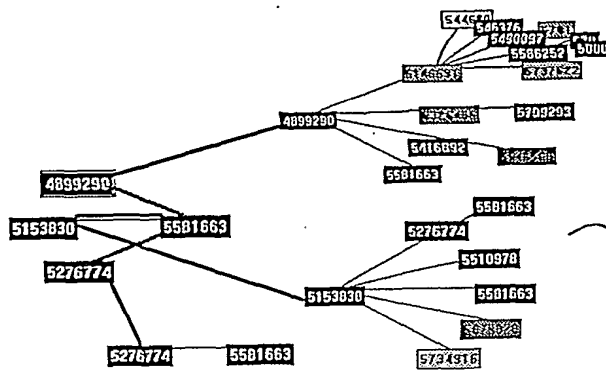
This citation tree shows which other companies are pursuing similar technology.

Identifies for the negotiation team how fast the technical area is moving and how many companies are involved. It shows visually the uniqueness of the patent under discussion, and from the richness of the tree, how valuable it is. When the nodes are color coded for right-to-practice (red-yellow-green) it shows which companies must take a license, and again the value of the patent under discussion.

FI 6.34

#16 Nested Patent Citation-tree

For the company's fastest moving technology areas, patents in these areas are analyzed for spill-over technology drift. The map is created by going one citation back, then three forward using the Aureka system. The results are cut and pasted into a PowerPoint slide for visualization.



The citation root-tree shows on which companies competitive intelligence should do a preliminary investigation for possible infringing products and services.

Implication is that the assertion team knows early on other companies' possible activities that might be using, or have use for, the company's art.

FIG. 36

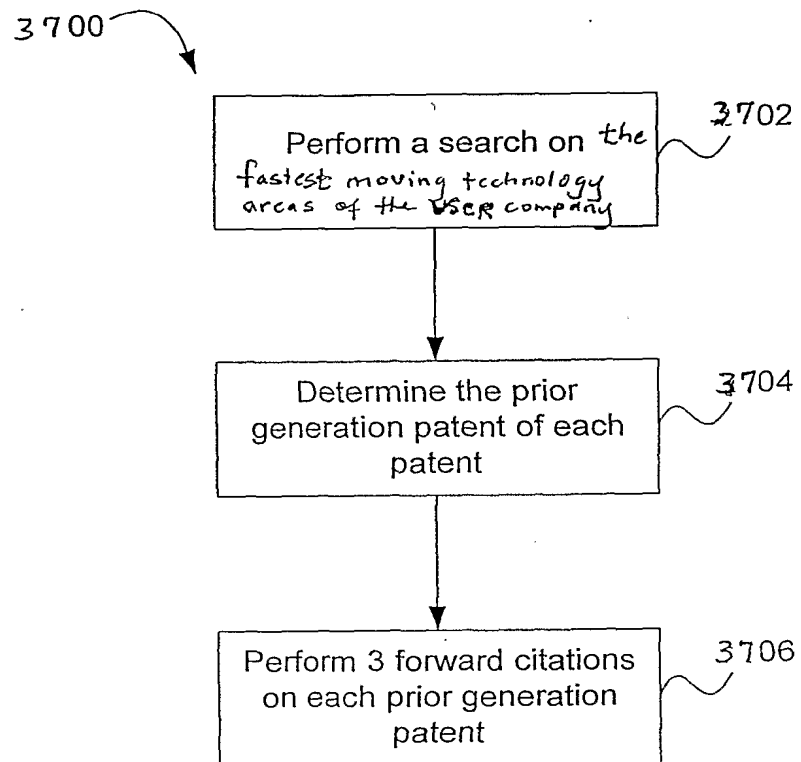
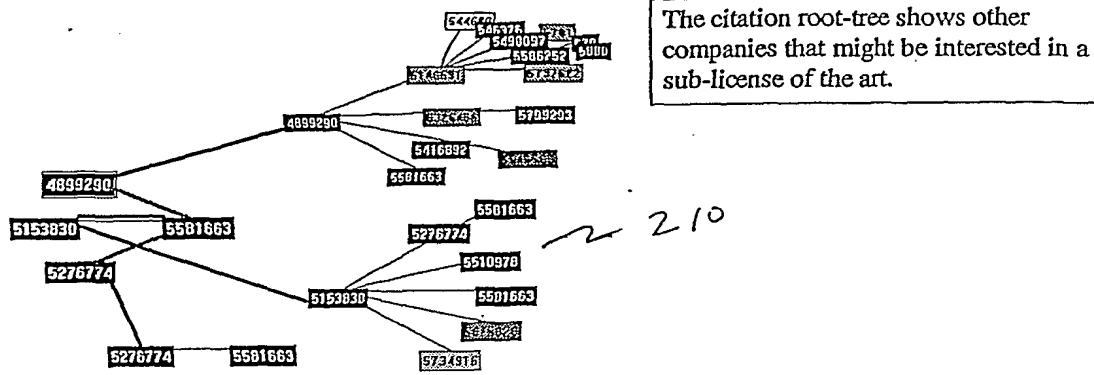


FIG. 37

#24 Nested Patent Citation-tree

This graphic is created the same way as #16 for the art under negotiation



Implication is that the company taking the license may have an opportunity to sub-license further, or not, and thereby mitigate or influence the value paid for the patent.

FI 6. 38

#8 Product/Patent/Revenue Table

This is created by integrating the financial information from the company's books, with its manufacturing tracking system, and the patent to product information into a unified report. This may be done easily today with an SAP and Aureka integrated report.

Patent Number	Title	Issued	Expires	Assignee	Part Number	Revenue	Part Number	31042
4089017	Automatic photostudio	5/9/78	5/9/95	Polaroid Corporation	5351	\$76,312		
4258119	Novel xanthene compounds and photographic pro	3/24/81	3/24/98	Polaroid Corporation	5351	\$74,003	Sum of Revenue	
4288153	Automatic strobe camera	9/8/81	9/8/98	Polaroid Corporation	5351	\$78,374	Patent Number	Total
4345017	Photographic products and processes with a pH s	8/17/82	8/17/99	Polaroid Corporation	5351	\$73,938	3872486	\$ 67,106
EP 0 672 267 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	1/15/97	9/13/14	Polaroid Corporation	5351	\$75,946	3967292	\$ 67,261
4201587	Graft copolymers as diffusion control layers in phc	5/6/80	5/6/97	Polaroid Corporation	14471	\$0	4390613	\$ 68,379
4268142	Camera employing web for film ejection and proce	5/19/81	5/19/98	Polaroid Corporation	14471	\$0	4774535	\$ 68,457
4565771	Photographic film assemblage	1/28/86	1/28/03	Polaroid Corporation	14471	\$0	4891298	\$ 67,935
4972218	Photographic film assemblage	11/20/90	11/20/07	Polaroid Corporation	14471	\$0	Grand Total	\$339,138
3705540	ELECTRONIC FLASH UNIT	12/12/72	12/12/89	Polaroid Corporation	19082	\$0		
3793022	DIFFUSION TRANSFER FILMS WITH ANTI-REF	2/19/74	2/19/91	Polaroid Corporation	19082	\$0		
3816123	PHOTOGRAPHIC PROCESSES AND PRODUCT	6/11/74	6/11/91	Polaroid Corporation	19082	\$0		
4025682	Photographic products	5/24/77	5/24/94	Polaroid Corporation	19082	\$0		
4052729	Camera with movable film drive and optical unit	10/4/77	10/4/94	Polaroid Corporation	19082	\$0		
4162829	Photographic film drive system employing inertia	7/31/79	7/31/96	Polaroid Corporation	19082	\$0		
4267254	Photographic process	5/12/81	5/12/98	Polaroid Corporation	19082	\$0		
EP 0 340 676 A3	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	8/8/90		Polaroid Corporation	19082	\$0		
EP 0 340 676 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	11/9/94	4/28/09	Polaroid Corporation	19082	\$0		
3872486	PHOTOGRAPHIC APPARATUS EMPLOYING VA	3/18/75	3/18/92	Polaroid Corporation	31042	\$67,106		
3967292	Film assembly including a hermetically sealed bat	6/29/76	6/29/93	Polaroid Corporation	31042	\$67,261		
4390613	Diffusion transfer photographic system utilizing su	6/28/83	6/28/00	Polaroid Corporation	31042	\$68,379		
4774535	Instant type camera with manually operable mean	9/27/88	9/27/05	Polaroid Corporation	31042	\$68,457		
4891298	Photographic products and processes	1/2/90	1/2/07	Polaroid Corporation	31042	\$67,935		
4214822	Multipurpose film cassette having one-piece rotati	7/29/80	7/29/97	Polaroid Corporation	38324	\$26,331		
4226515	Photographic camera	10/7/80	10/7/97	Polaroid Corporation	38324	\$28,399		
4668062	Apparatus for precluding rotational movement of e	5/26/87	5/26/04	Polaroid Corporation	38324	\$29,003		
4688912	Photographic apparatus having a film advancing a	8/25/87	8/25/04	Polaroid Corporation	38324	\$29,118		
5571656	Multicolor diffusion transfer photographic film elen	11/5/96	2/9/16	Polaroid Corporation	38324	\$26,425		
3868709	PHOTOGRAPHIC APPARATUS WITH FILM REC	2/25/75	2/25/92	Polaroid Corporation	51723	\$39,948		
4092167	Photographic film unit with taps on binding elemen	5/30/78	5/30/95	Polaroid Corporation	51723	\$39,993		
4134655	Film unit deflection system for self developing can	1/16/79	1/16/96	Polaroid Corporation	51723	\$41,343		

This chart shows for each patent how much of the company's sales revenue is being covered.

The portfolio team can see at a glance which patents are protecting revenue streams and which are not. Those not protecting revenue are subject to a decision to licensing out, donation, or abandonment.

FIG. 39

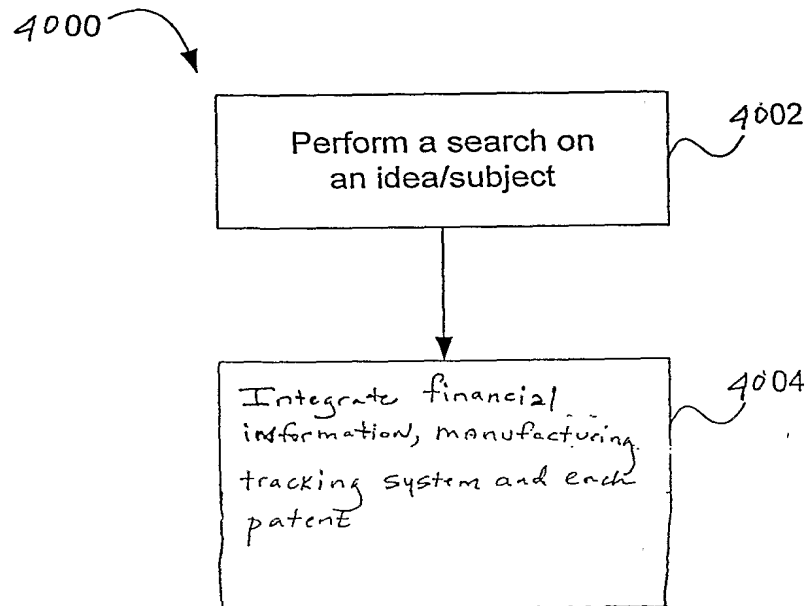
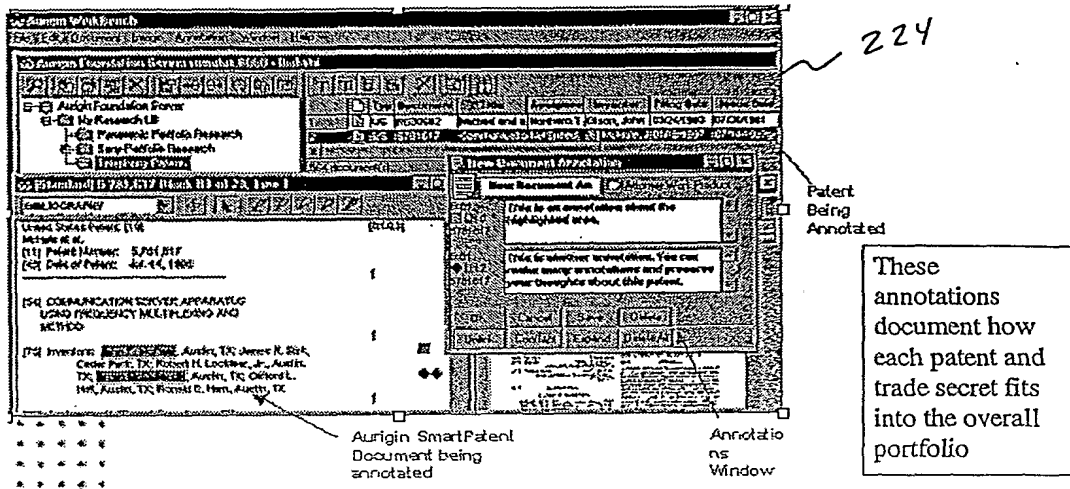


FIG. 40.

#9 Document Annotation

During the portfolio review meetings the team can real-time annotate patents & corporate documents using the annotation window in Aureka



Pre-meeting recorded, indexed knowledge is used expedite patent portfolio review meetings

FIG. 41

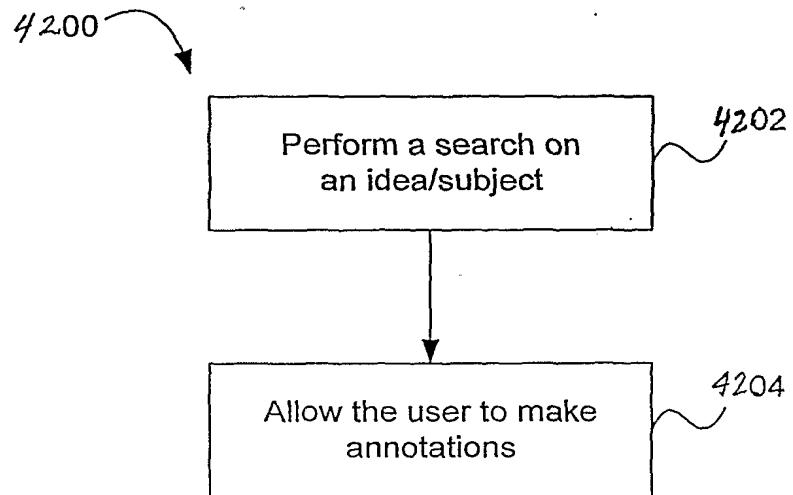
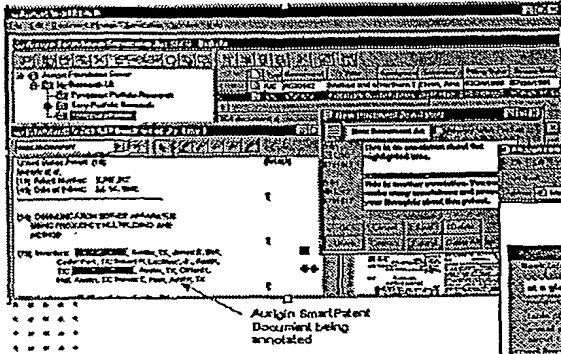


FIG. 42

#17 Document Annotation

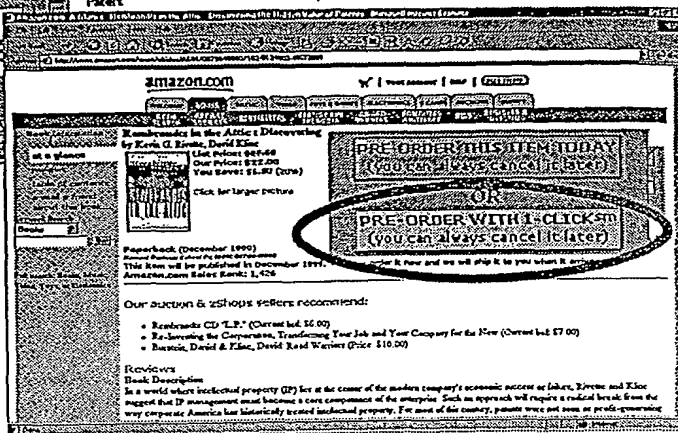
During the assertion analysis the individual analysts and the team can real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka



Aureka SmartPatent
Document being
annotated

These annotations document how each patent may be related to the data sheet, press releases, and reverse engineering reports of possible infringers.

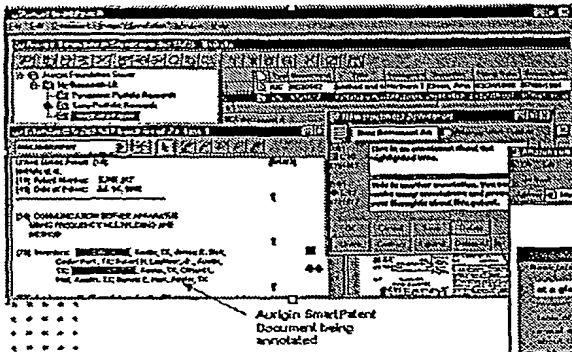
This indexed knowledge is used expedite individual assertion analysis activities as well as the efficiency of the assertion team's review meetings



FI 6. 43

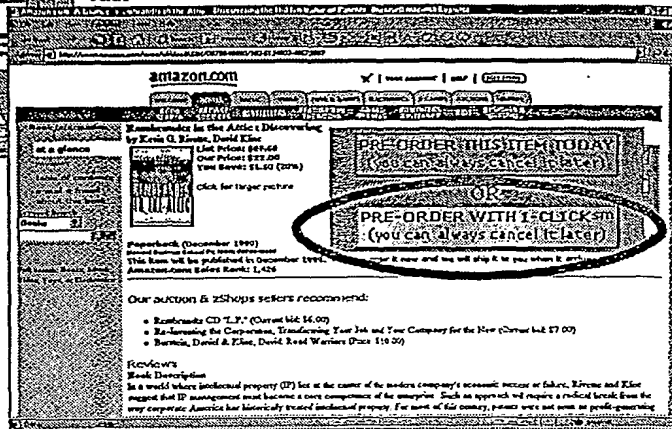
#25 Document Annotation

During the negotiation the individual analysts and the team can real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka



These annotations document how each patent may be related to other elements of the negotiation process.

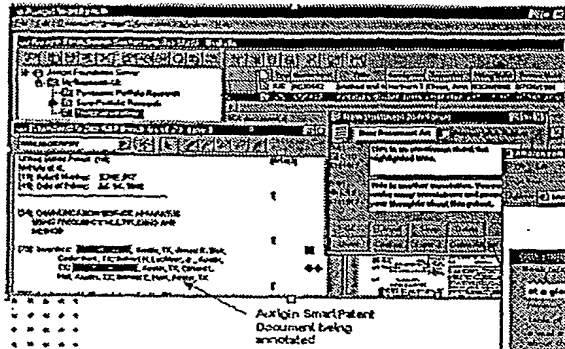
This indexed knowledge is used expedite the negotiation as well as the efficiency of the negotiation meetings



F±6. 44

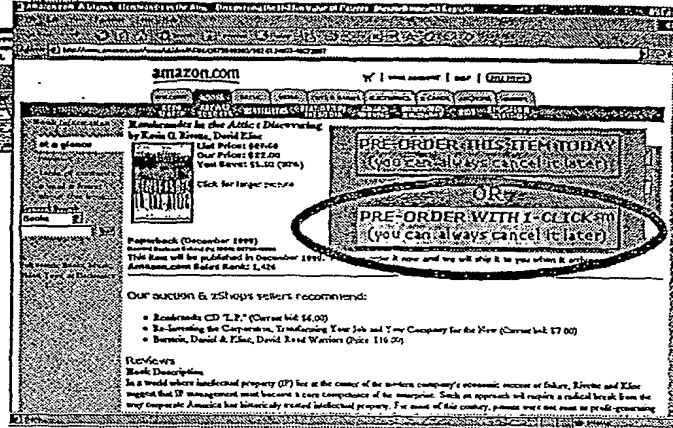
#34 Document Annotation

During the litigation the individual analysts and the team can real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka



These annotations document how each patent may be related to other elements of the litigation process.

This indexed knowledge is used expedite the litigation as well as react to new elements surfacing during the proceedings.



FI 6. 45

#26 Inventors

This report is run in Aureka Reports. It is the Inventor report

Inventory - Patent Count Report for IPC class from patent

Inventor Name	Document Count
Benning, Robert C.	11
Be, Clair, David J.	9
BRONSTERT, KLAUS, DR.	7
Ericksen, James R.	7
Wells, Carl L.	7
Salazar, Andre A.	6
Leischner, Adolf	6
Lindner, Christien	6
Chouh, Giridra	5
Obler, Camis J.	5
OUTIERREZ, ANTONIO	5
Isayama, Katsuhiko	5
Isizaki, Osamu	5
LINDBERG, ROBERT DEAN	5
Pruchel, Paul J.	5
ADRI, ES	4
BRUNGER, DIETMAR, DR.	4
Bezzard, John D.	4
Curse, John	4
Dufford, Edward L.	4
EMERT, JACOB	4
Goodwin, Daniel E.	4
Hartmann, Heinrich	4
HARTMANN, HEINRICH, DR.	4
Hefner, Jr., Robert E.	4
Hengenrother, William L.	4
Isasawa, Naotami	4
Krogh, Michael J.	4
Li, Ts-Wing	4
Menardo, Anna	4
Moggi, Giovanni	4
Nakai, Noboru	4
Prachnick, Jr., Robert K.	4
Sato, Toshiaki	4

This report indicates the quality and variety of top inventors who will transfer the technology.

226

Identifies for the negotiation team the key people to ascertain whether or not they will be available for technology transfer. Their availability affects the value of the art under discussion.

FIG. 46

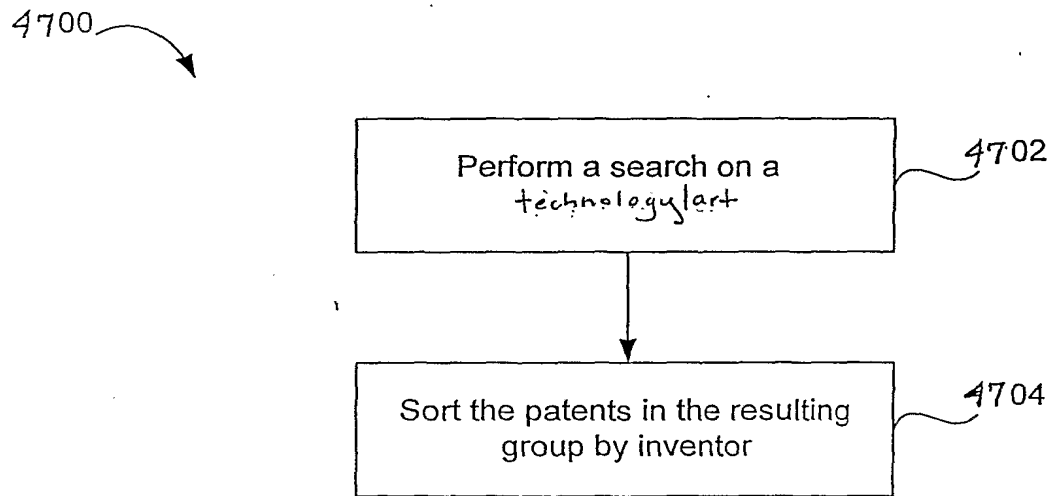


FIG. 47

#35 Inventors

This report is run in Aureka Reports. It is the Inventor report

Investor - Patent Count Report for IPC class from patent

Investor Name	Document Count
Bernard, Robert C.	11
Be, Oak, David J.	9
BROCHERT, KLAUS, DR.	7
Braden, James R.	7
Wille, Carl	7
Bazza, Andre A.	6
Leinchner, Adolf	6
Lindner, Christian	6
Chadwick, Orville	5
Ober, Camus J.	5
GUTTERIDGE, ANTHONY	5
Mayana, Koushiko	5
Wozniak, Orono	5
LUNDBERG, ROBERT DEAN	5
Prud'homme, Paul J.	5
ACK, KEI	4
BENDER, DIETMAR, DR.	4
Beckert, John D.	4
Curtis, John	4
Dufford, Edward L.	4
ELBERT, JACOB	4
Goodwin, Daniel E.	4
Karwan, Heinrich	4
HARTMANN, HEINRICH, DR.	4
Hehr, R., Robert E.	4
Hergenschiebe, William L.	4
Wassner, Nazim	4
Kaogh, Michael J.	4
Lai, Ta-Wang	4
Minello, Anna	4
Mogel, Giovanni	4
Hase, Noboru	4
Praschke, R., Robert K.	4
Sax, Tonnard	4

This report indicates the inventors who could be involved in the litigation proceeding.

~ 226

Identifies for the litigation team the key people to check out ahead of time for their background and opinions on the validity of the case.

FIG. 48

#10 Months to Issue Patents

Created by searching US patents related to each technical area. The information is then exported to excel and the filing date subtracted from the issue date to obtain the prosecution time for each patent. The results are summarized and graphed using the wizard.

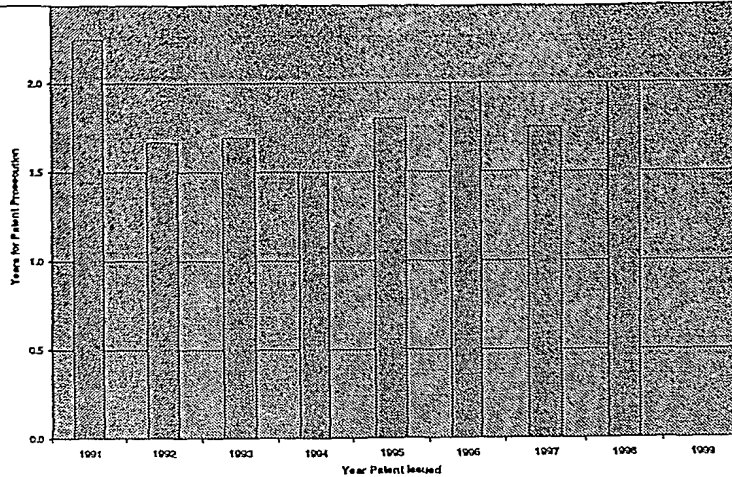


Chart shows average time patents in each technology area are hidden from the portfolio team's view.

~ 228

Implication is the portfolio team knows the timing risk from its use of US patent databases, and can modify its decisions accordingly.

FIG. 99

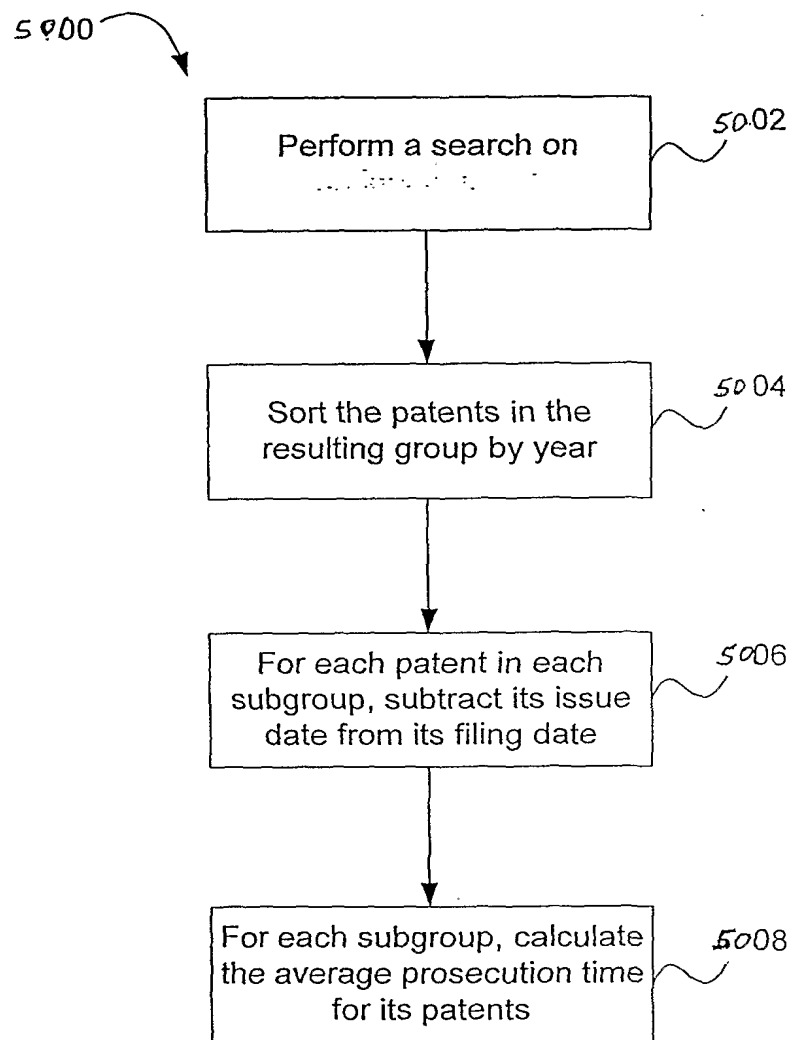
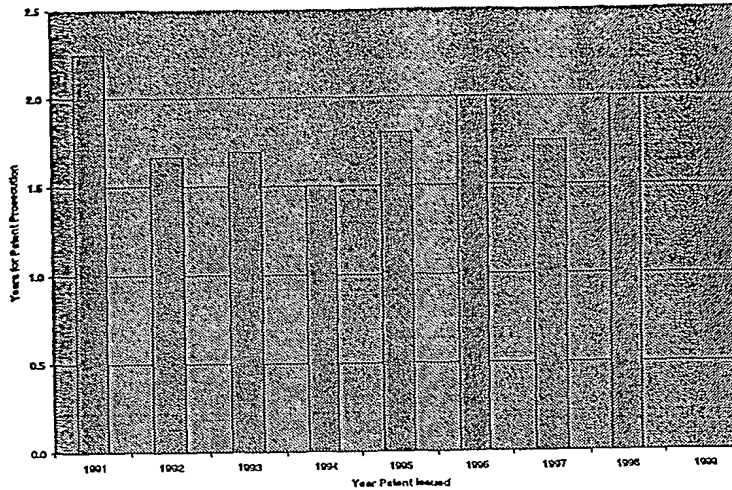


FIG. 50

#27 Months to Issue Patents

Created by the same methods as #10.

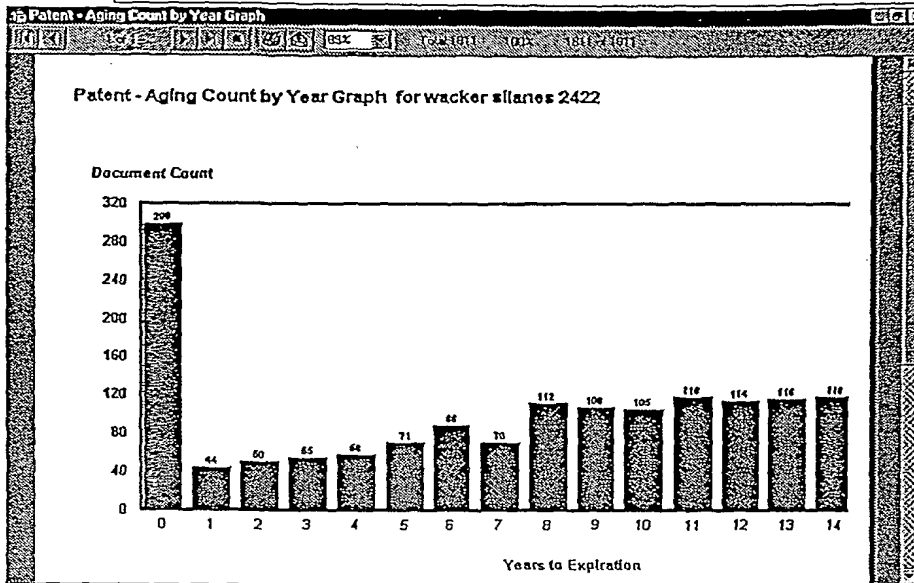


Implication is the negotiation team should ask about the art in prosecution and modify its stance and decisions accordingly.

FIG. 51

#11 Time Remaining on Patents

This is created for each technology area of the company's patents. It is a standard report of the Aureka system.



The chart shows the age of each of the company's patents.

~ 230

The implication is that the portfolio team can see which Technologies are young and worthy of investment and which are old wherein invention growth is static

FIG. 52

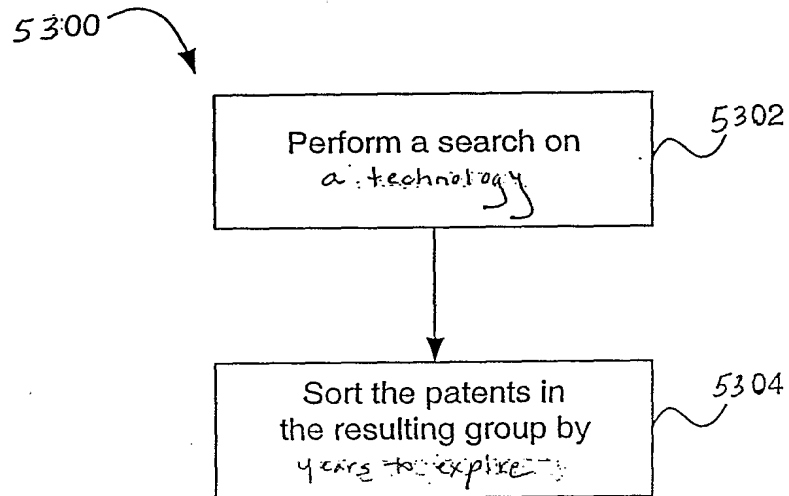
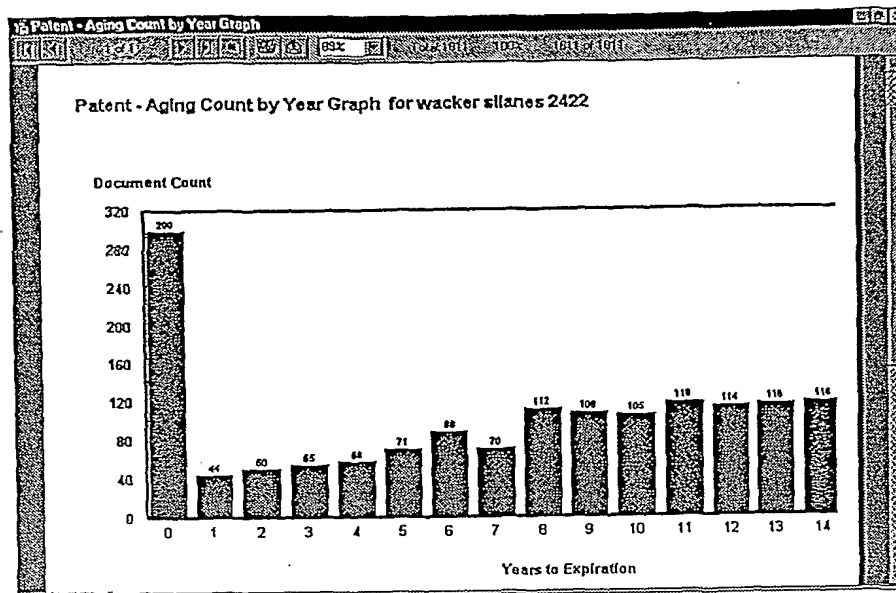


FIG. 53

#36 Time Remaining on Patents

This is created the same as for #11.



The chart shows the age of each patent under litigation.

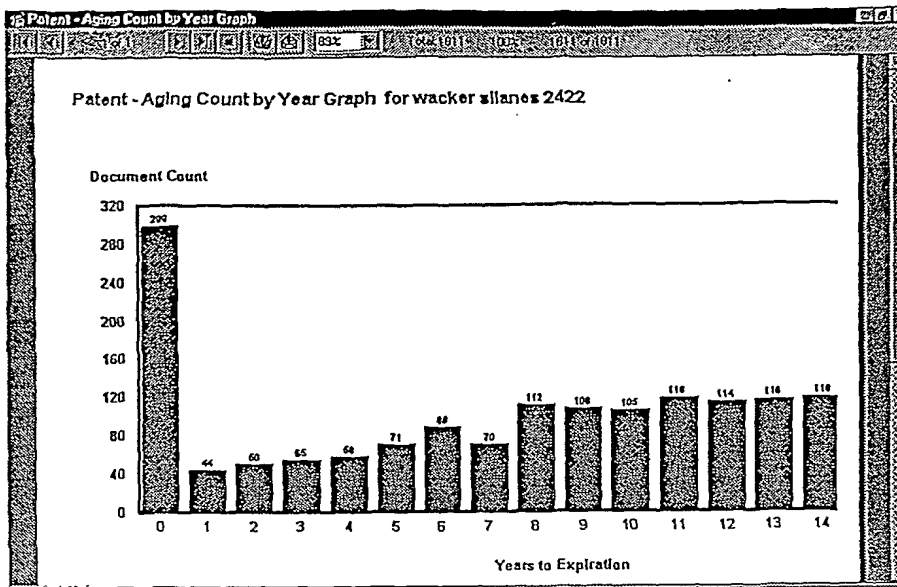
~ 230

The implication is that the judge can see the time remaining on the art and take this into account when setting damages.

FIG. 54

#38 Time Remaining on Patents

This is created the same as for #11.



The chart shows the age of each patent for which revenues are being collected.

~ 230

The implication is that the licensing department can show how the revenue stream will vary with the time remaining on licensed patents.

F.I.C. 55

Autzium Foundation Server

Search

Document Category

- All Small Patent & Summary documents
- US Patents
- EP-A Applications
- EP-B Patents
- PCT Applications

Fielded Search Criteria

Doc ID:

US Date:

Int Date:

Inventor:

Assignee:

Pub Date:

Pub Date:

Pub No:

Natural Language Search

Text Search:

Search: ☐ Entire Document ☐ Abstract Only ☐ Claims Only

FIG. 56

File Date: Any--

1/1

1/1

1/1

1/1

1/1

Text Search

electronic vending

☒ Use Natural Language Expansion

Search in:

☒ Entire Document

☐ Abstract Only

☐ Claim Only

Search

Clear Form

Cancel

FIG. 57

Input Information (yet2com example)

AUR|GIN

yet2com

Input Form for LEVEL 2 Information about the Technology (continued)

Patent references	
Patent No.	Patent Title
5,573,324	Method for combining predictive and
5,597,566	adaptive feedback control of beam position
Patent numbers	Patent numbers
Patent numbers	Patent numbers
Patent numbers	Patent numbers
Patent numbers	Patent numbers
Diagrams / Images	Please reference the file names (or diagram or image to be used for this technology)
File	File name or file reference
Diagram name	Diagram or image reference for image 1
Diagram name	Diagram or image reference for image 2
Diagram name	Diagram or image reference for image 3
Diagram name	Diagram or image reference for image 4
Diagram name	Diagram or image reference for image 5
Commercial Availability	
Availability check at this apply	<input checked="" type="checkbox"/> Exclusive license <input checked="" type="checkbox"/> Sole license <input checked="" type="checkbox"/> Non-exclusive license <input checked="" type="checkbox"/> Cross license <input type="checkbox"/> Other
Licenses already granted?	<input checked="" type="checkbox"/> No
Restrictions, Terms, and Requirements	
Field of use restrictions	None

FIG. 58

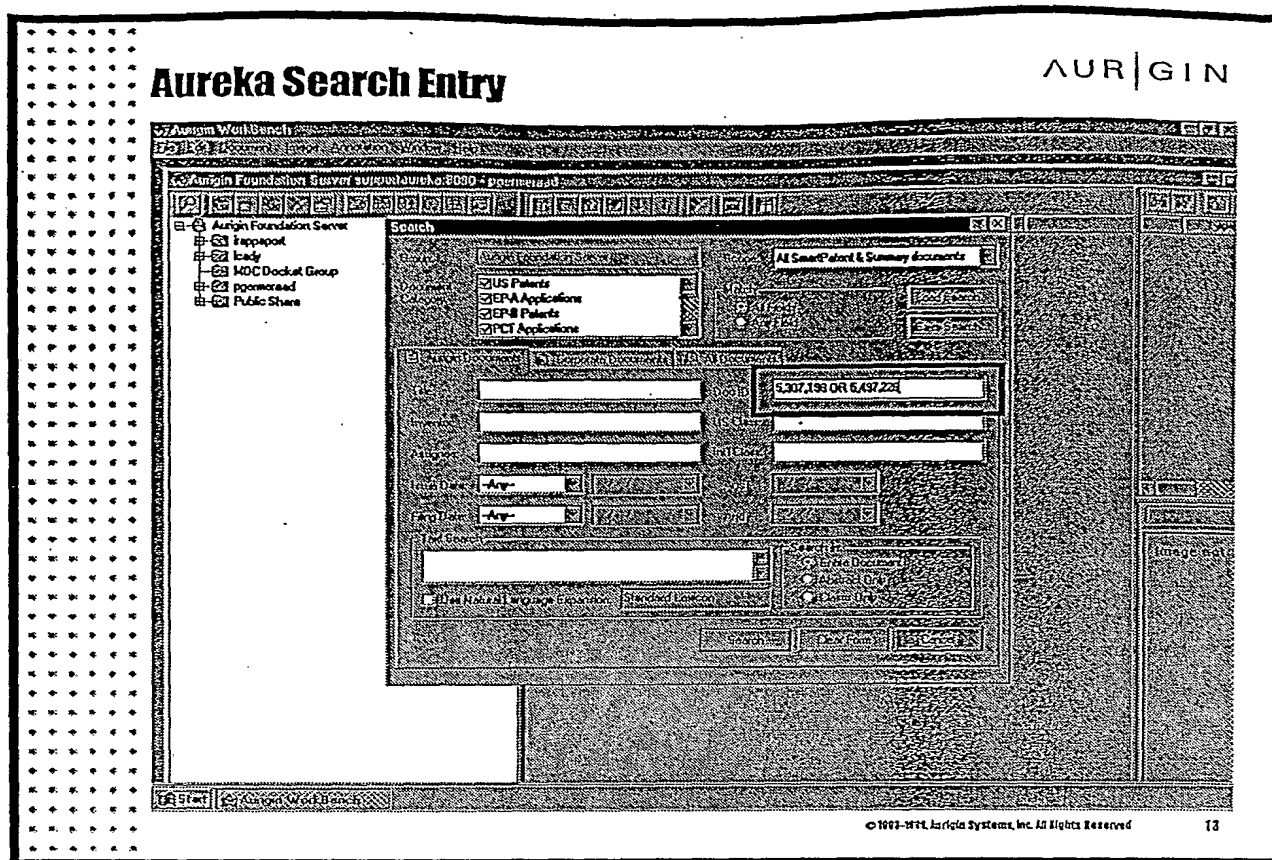


FIG. 59

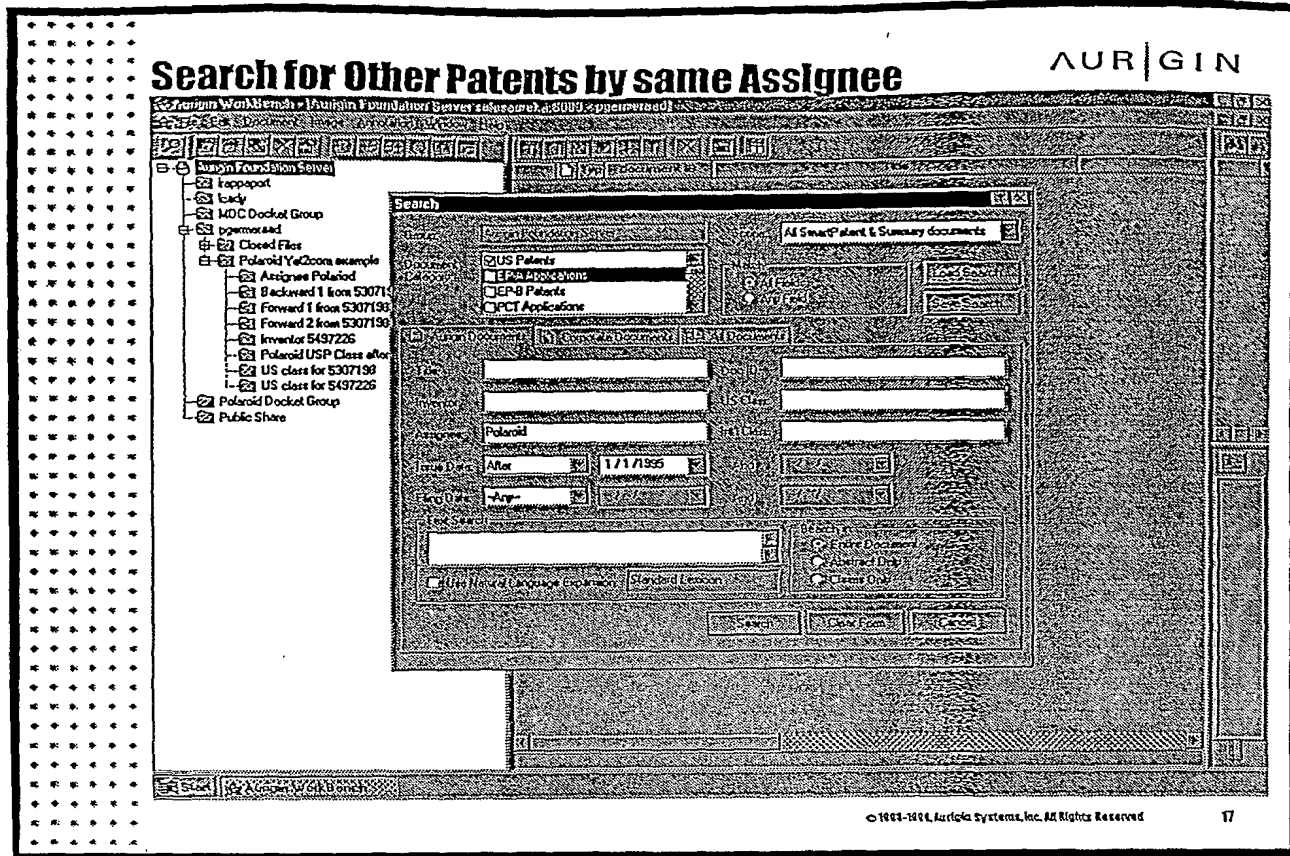


FIG. 60

Listed Patent "Same Assignee" Search Results

AURGIN

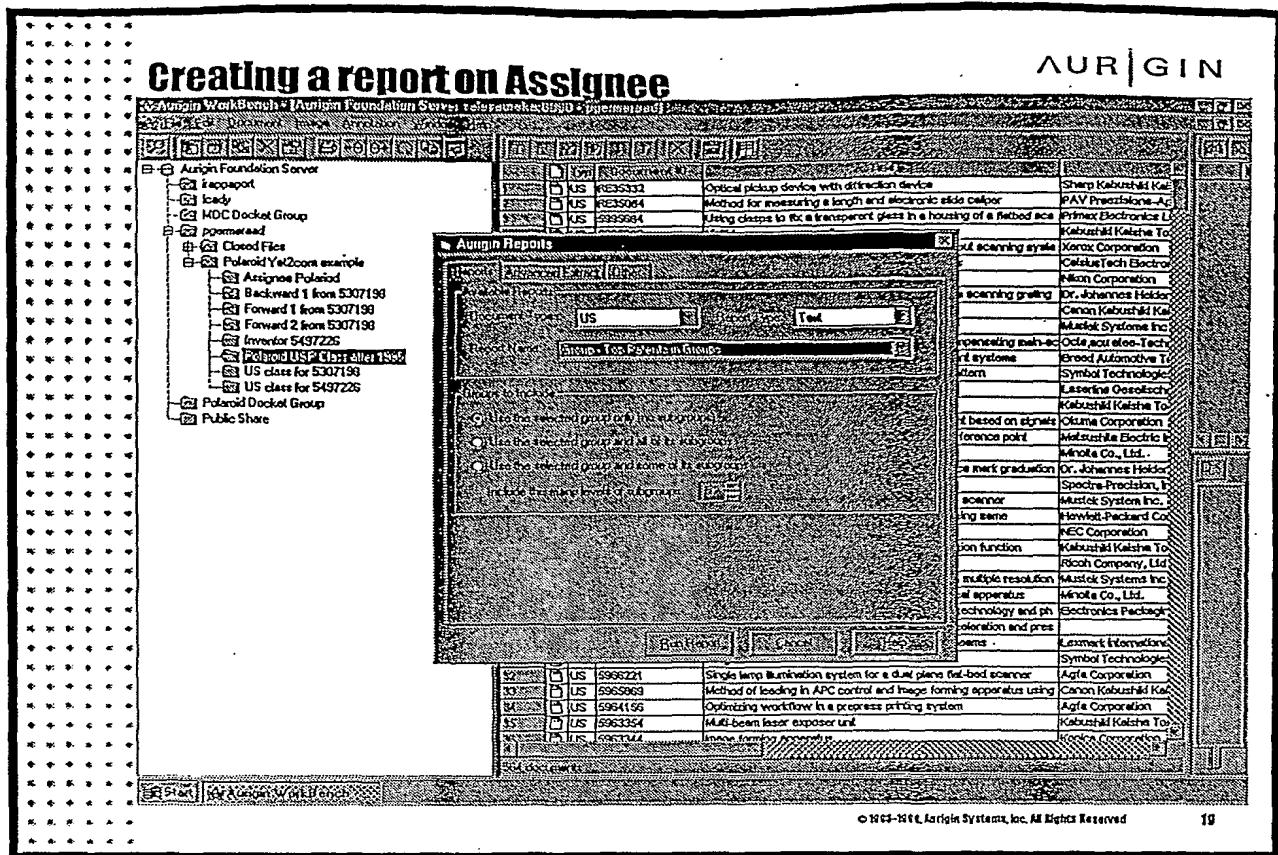
Aurigin WorkBench - (Aurigin Foundation Server sales@auriga.com 800-800-8000)

Patent Number	Patent Title	Assignee
US 5925322	Optical pickup device with detection device	Shimadzu Kabushiki Kaisha
US 5925324	Method for measuring a length and electronic scale calibrator	PAV Precision Systems, Inc.
US 5925324	Using clasps to fix a transparent glass in a housing of a flatbed scanner	Prime Electronics Ltd.
US 5925325	Multi-beam exposure unit	Kabushiki Kaisha To
US 5925327	Time division multiplexing multiple beam raster output scanning system	Xerox Corporation
US 5925328	Opto-mechanical deflector device for line displays	Celatus Tech Electron
US 5925329	Projection exposure apparatus	Nikon Corporation
US 5925330	Photo-electric position measuring system having a scanning grating	Dr. Johannes Holder
US 5925331	Optical scanning device	Canon Kabushiki Kaisha
US 5925332	Window management of a scanning machine	Musitek Systems Inc.
US 5925333	Scanner system and method for automatically compensating skew	Octo-Jet Systems, Inc.
US 5925334	Optical weight sensor for vehicular safety restraint systems	Brook Automotive T
US 5925335	Electro-optical scanner having selectable scan pattern	Symtek Technology
US 5925336	Laser optics and diode laser	Kasei Kogyo Co., Ltd.
US 5925337	Optical apparatus	Kabushiki Kaisha To
US 5925338	Optical encoder for detecting relative displacement based on signals	Optima Corporation
US 5925339	Optical encoder for detection having a moving reference point	Mitsubishi Electric
US 5925340	Image reading apparatus	Minolta Co., Ltd.
US 5925341	Optical position-measuring device having reference mark graduation	Dr. Johannes Holder
US 5925342	Laser transmitter incorporating target driver	Spectra Precision, Inc.
US 5925343	Loading device for loading a scanning module in a scanner	Musitek Systems Inc.
US 5925344	Scanner carriage lamp reflector and method of using same	Hewlett-Packard Co.
US 5925345	Image scanner	NEC Corporation
US 5925346	Image-scanning apparatus with a shading correction function	Kabushiki Kaisha To
US 5925347	Multiple-beam optical recording apparatus	Ricoh Company, Ltd.
US 5925348	Device and method for determining resolution of a multiple resolution	Musitek Systems Inc.
US 5925349	Light source device and light beam scanning optical apparatus	Minolta Co., Ltd.
US 5925350	Measuring surface flatness using shadow moiré technology and ph	Electronics Packag
US 5925351	Multiplexable optical fiber displacement, strain acceleration and pres	Luxmark Internation
US 5925352	Method and apparatus for aligning multiple laser beams	Symbol Technology
US 5925353	Integrated scanner on a common substrate	Agfa Corporation
US 5925354	Single lamp illumination system for a dual plane flat-bed scanner	Agfa Corporation
US 5925355	Method of loading in APC control and image forming apparatus using	Canon Kabushiki Kaisha
US 5925356	Optimizing workflow in a prepress printing system	Agfa Corporation
US 5925357	Multi-beam laser exposure unit	Kabushiki Kaisha To
US 5925358	Image forming apparatus	Canon Corporation

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FIG. 61



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Report of other patents by same assignee

Group - Top U.S. Patents in Groups

Report 1

Group - Top U.S. Patents in Groups for Polaroid USP Class after 1995

Document	Title	Issue Date	Group Count
6378107	Process and apparatus for the measurement of object topographies by means of projected fringe patterns	01/03/1995	1
6381244	Image reading system using an interruption of a pulse train to adjust a scanning period	01/10/1995	1
6381258	Laser projector for projecting an image onto a curvilinear surface	01/10/1995	1
6383025	Optical surface flatness measurement apparatus	01/17/1995	1
6383047	Roll bow compensation	01/17/1995	1
6383052	Afocal optical system and multibeam recording apparatus comprising the same	01/17/1995	1
6383168	Actively athermalized optical head assembly	01/17/1995	1
6383284	Measuring carriage for a linear measuring system	01/24/1995	1
6386291	Displacement sensor including a heat insulating member partitioning the moving scale and the semiconductor laser	01/31/1995	1
6387995	Optical positioning system for at least one picture element	02/07/1995	1
6388544	Method for counting living cells of microbes and apparatus therefor	02/14/1995	1
6390022	Displacement information detection apparatus for receiving a divergent light beam	02/14/1995	1
6390032	Image reader having photoelectric conversion line sensors	02/14/1995	1
6391165	System for scanning a surgical laser beam	02/21/1995	1
6392100	Imaging device having dual scanners	02/21/1995	1
6392135	Image reading apparatus having different reading speeds	02/21/1995	1

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FIG. 63

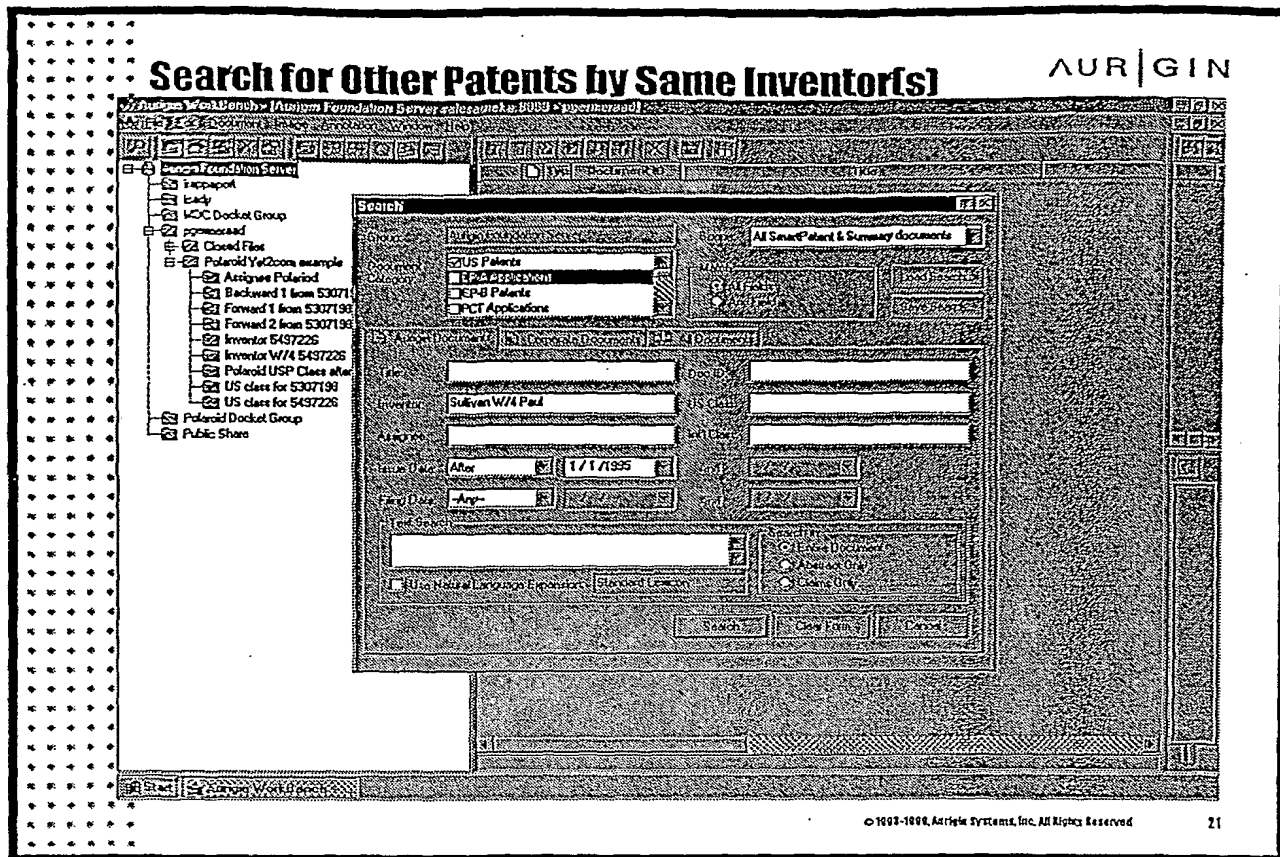


FIG. 64

Listed Patent "Same Inventor" Search Results

AUR|GIN

Aurigin WorkBench - [Aurigin Foundation Server sales@auriga.8000 - pgeimread]

Left Panel (Tree View):

- Aurigin Foundation Server
 - trappaport
 - leady
 - MDC Docket Group
 - pgeimread
 - Closed Files
 - Polaroid Yet2com example
 - Assignee Polaroid
 - Backward 1 from 5307193
 - Forward 1 from 5307193
 - Forward 2 from 5307193
 - Inventor 5497225
 - Inventor 5497225**
 - Polaroid USP Class after 1995
 - US class for 5307193
 - US class for 5497225
 - Polaroid Docket Group
 - Public Share

Right Panel (Table):

No.	Patent No.	Inventor	Assignee
1	US 5959618	Battery assembly	Motorola, Inc.
2	US 5941193	Cable roping laral	Equibrand Corporation
3	US 5910128	Protective support wrap for equine limb	Equibrand Corporation
4	US 5889558	Package assembly for an electronic component	Motorola, Inc.
5	US 5831182	Semiconductor device on an opposed leadframe and method for making same	Motorola, Inc.
6	US 5692346	Control system utilizing an adaptive predictor to compensate for hysteresis	Polaroid Corporation
7	US 5539446	Light beam position detection and control apparatus employing diffraction	Polaroid Corporation
8	US 5509782	Electromagnetically driven reciprocating pump with tilted piston	Pumpworx, Inc.
9	US 5487225	Quadrature diffractive encoder	Polaroid Corporation
10	US 5463992	Dental flow device	Forster
11	US 5440573	Method and apparatus for pixel synchronization	Polaroid Corporation

Bottom Bar: © 1992-1994 Aurigin Systems, Inc. All Rights Reserved 22

FIG. 65

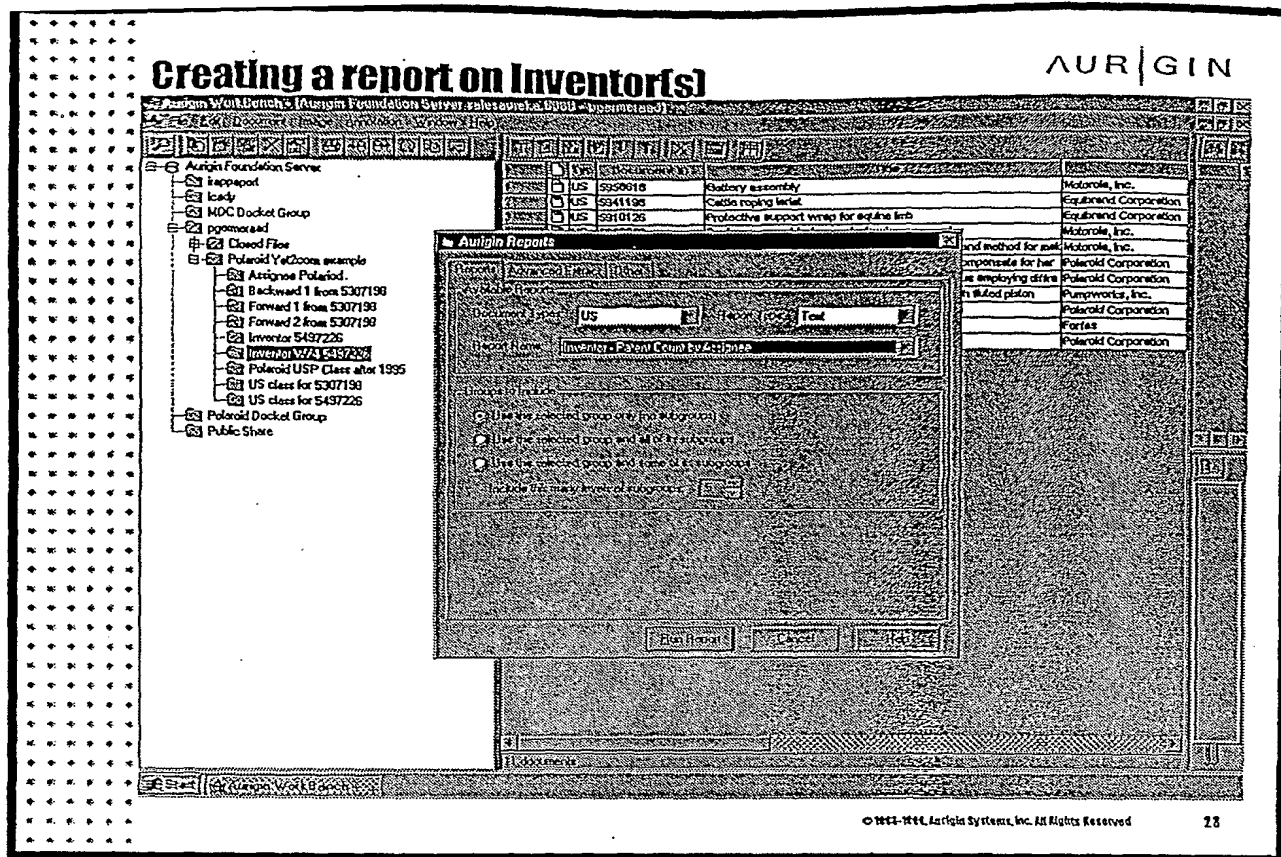


FIG. 66

AUR|GIN

Report of other patents by same Inventor

Inventor - U.S. Patent Count by Assignee

Report 2

Inventor - U.S. Patent Count by Assignee for Inventor W/4 5497226

Inventor Name	Assignee	Document Count
Sullivan, Paul F.	Polaroid Corporation	$\frac{4}{4}$
Sullivan, Paul	Foras Motorola, Inc.	$\frac{1}{2}$
Sullivan, Paul L.	Motorola, Inc.	$\frac{2}{2}$
Bennett, Clayton	Foras	$\frac{1}{1}$
Bray, Bryan Kenneth	Equibrand Corporation	$\frac{1}{1}$
Dougherty, David J.	Motorola, Inc.	$\frac{1}{1}$
Hart, Jr., John W.	Motorola, Inc.	$\frac{1}{1}$
Heppler, Richard E.	Motorola, Inc.	$\frac{1}{1}$

FIG. 67

Listed patent backward citation analysis

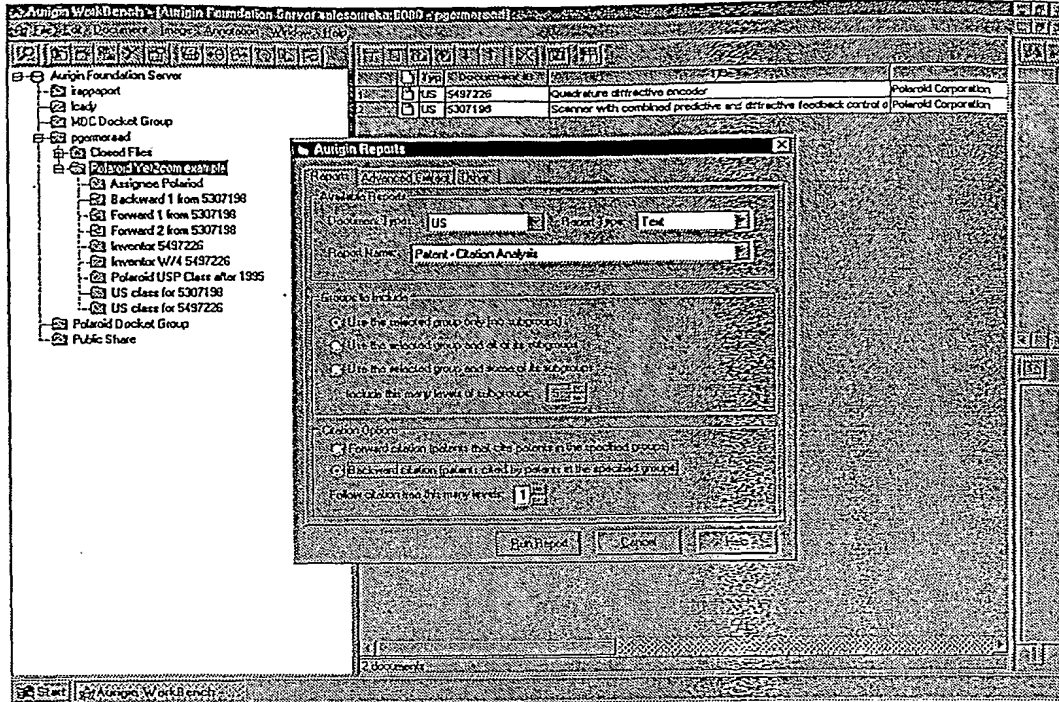


FIG. 68

Listed patent backward citation report

Patent - Citation Analysis for Polaroid Yet2com example, Reverse Citation			
Document	Title	Assignee	Issue Date
5307198	Scanner with combined predictive and diffractive feedback control of beam position	Polaroid Corporation	04/26/1994
4070117	Apparatus for the automatic alignment of two superimposed objects, e.g. a semiconductor wafer and mask	Kasper Instruments, Inc.	01/24/1978
4178064	Real time grading clock for galvanometer scanners in laser scanning systems	Xerox Corporation	12/11/1978
4806753	Light scanning device with a short-path synchronizing grid	Fuji Photo Film Co., Ltd.	02/21/1989
4866512	Method of and apparatus for reading image in corrected read timing	Dainippon Screen Mfg. Co., Ltd.	09/12/1989
4900924	Reference signal generation apparatus for position detector	Matsushita Electric Industrial Co., Ltd.	02/13/1990
4912322	Optical type displacement detecting device	Matsuyo Mfg. Co., Ltd.	03/27/1990
4980781	Method of and apparatus for setting original in image	Dainippon Screen Mfg. Co., Ltd.	12/25/1990
5012089	Scanning beam control system and optical scale structure useful thereto	Dainippon Screen Mfg. Co., Ltd.	04/30/1991
5105296	Method and apparatus for detecting beam spot shape	Dainippon Screen Mfg. Co., Ltd.	04/14/1992
5200849	Light beam scanning system	Dainippon Screen Mfg. Co., Ltd.	04/06/1993
5497226	Quadrature diffractive encoder	Polaroid Corporation	03/05/1996
5000572	Distance measuring system	Canon Kabushiki Kaisha	03/18/1991
5151754	Method and an apparatus for measuring a displacement between two objects and a method and an apparatus	Kabushiki Kaisha Toshiba	09/29/1992

FIG. 69

Backward citation tree preparation

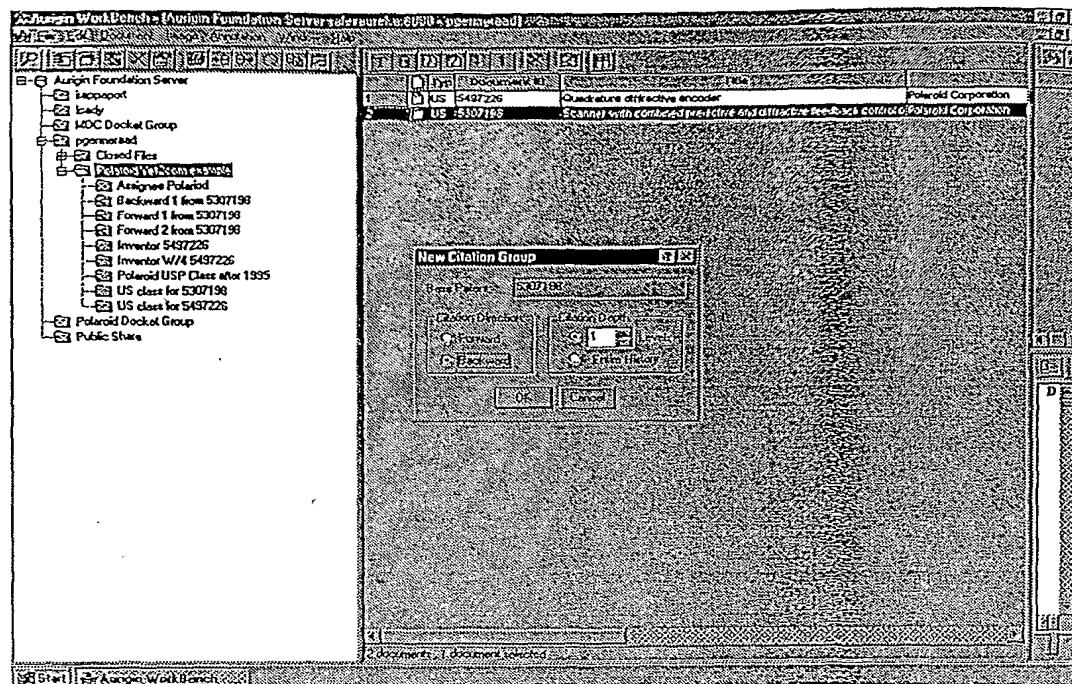
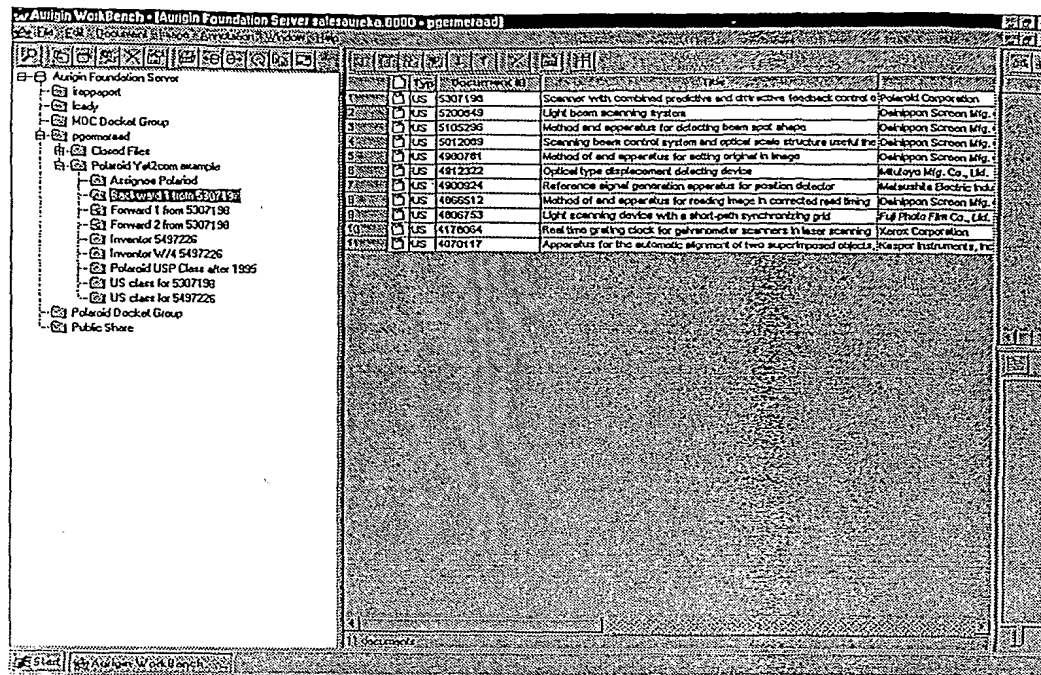
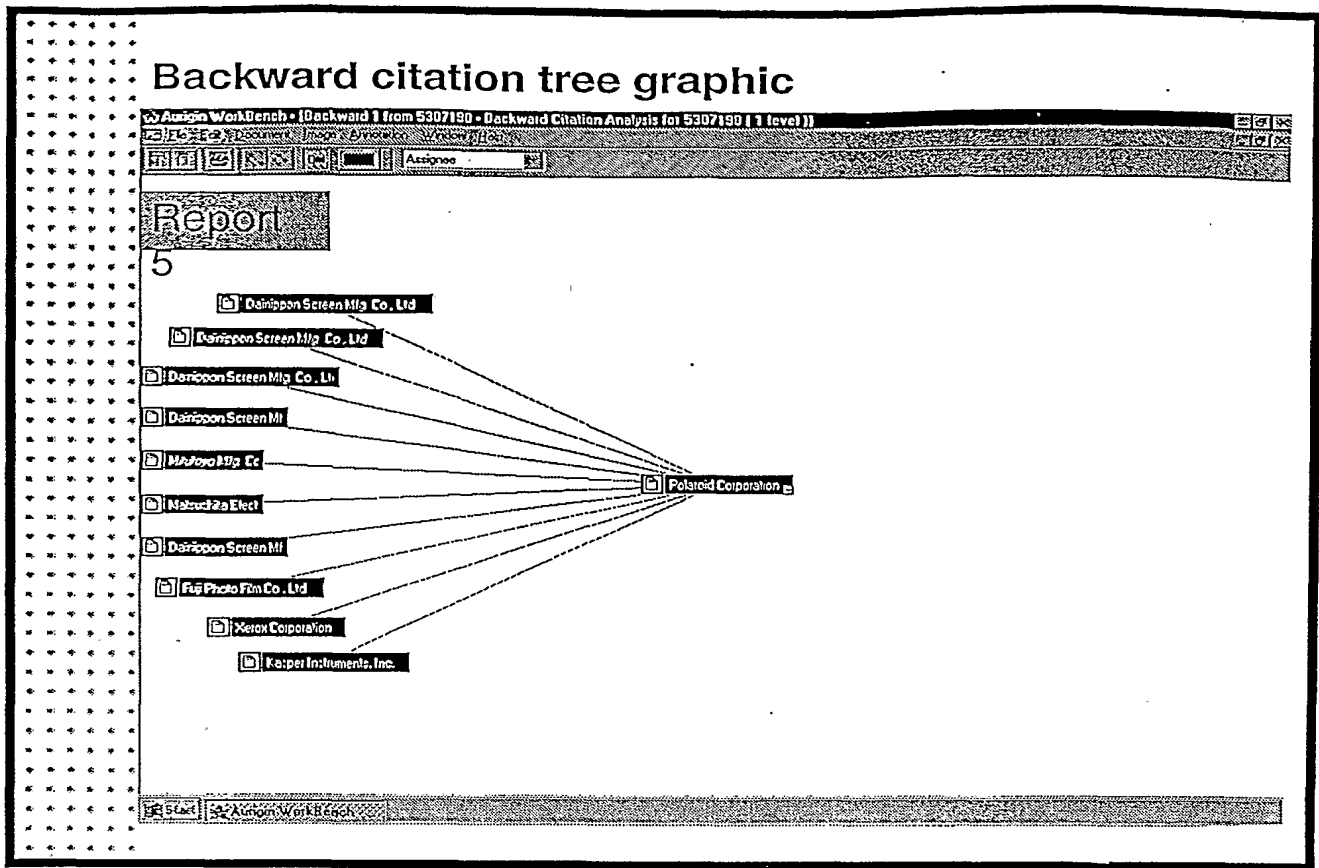


FIG. 70-

Backward citation tree group (for graphing)



FI 6. 71



FI 6.72

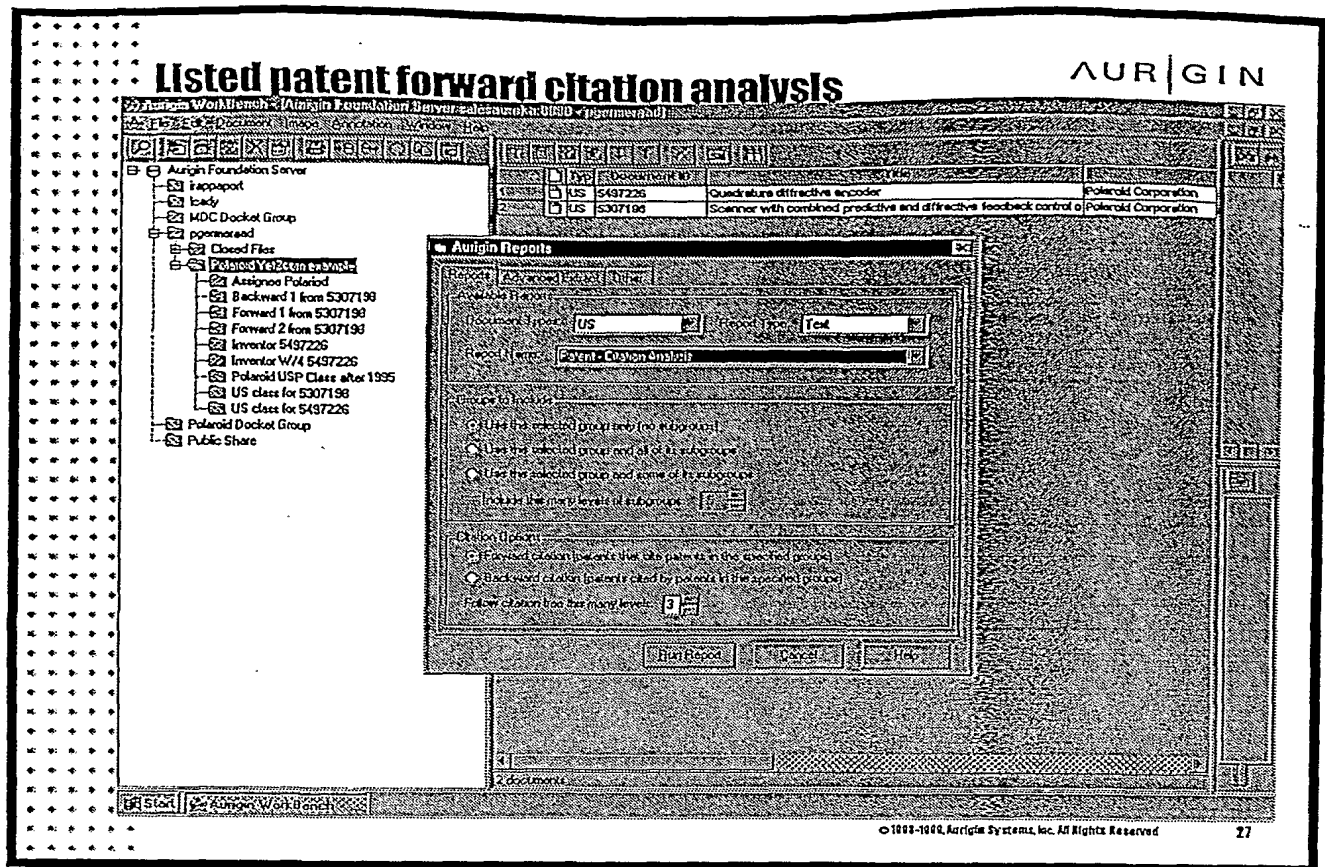


FIG. 73

Listed patent forward citation report

AUR|GIN

Patent - Citation Analysis			
Report 4			
Patent - Citation Analysis for Polaroid Yet2com example, Forward Citation			
Document	Title	Assignee	Issue Date
5307198	Scanner with combined predictive and diffractive feedback control of beam position	Polaroid Corporation	04/28/1994
5671077	Multi-beam light source device and optical scanning apparatus using the multi-beam source device	Ricoh Company, Ltd.	09/23/1997
5831758	Multi-beam optical scanner	Ricoh Company, Ltd.	11/03/1998
5973813	Reflection type optical scanning system	Asahi Kasei Kogyo Kabushiki Kaisha	10/28/1999
5880766	Apparatus for correcting positional deviation of light source emitting light beams in image recording apparatus	Fuji Xerox Co., Ltd.	03/09/1999
5075043	Optical scanner for detecting light intensity from reflected image-reading light	Brother Kogyo Kabushiki Kaisha	02/23/1999
5497226	Quadrature diffractive encoder	Polaroid Corporation	03/05/1996
5777322	Photo-electric position measuring system having a scanning grating with transverse graduations	Dr. Johannes Heidenhain GmbH	07/07/1998
5994692	Photo-electric position measuring system having a scanning grating with transverse graduations	Dr. Johannes Heidenhain GmbH	11/03/1999

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FIG. 74

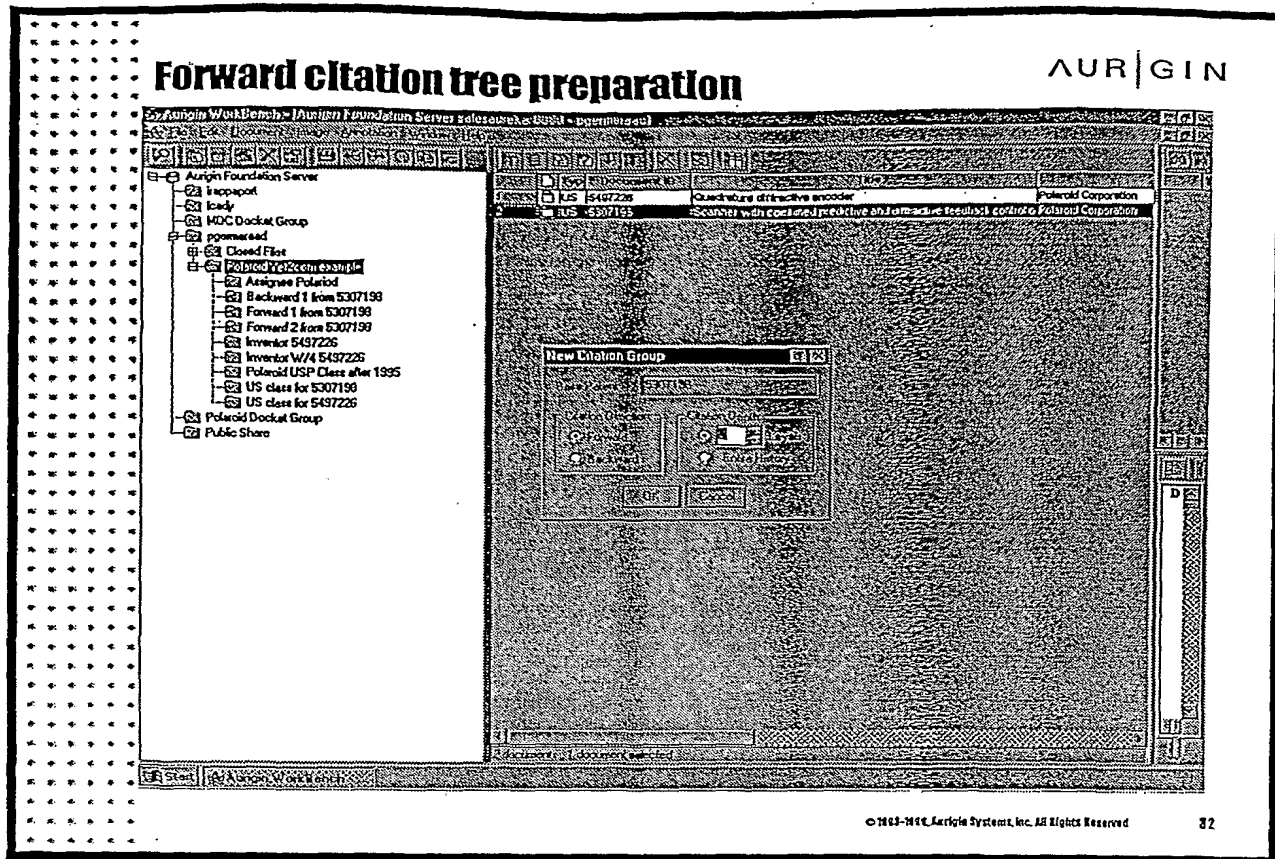
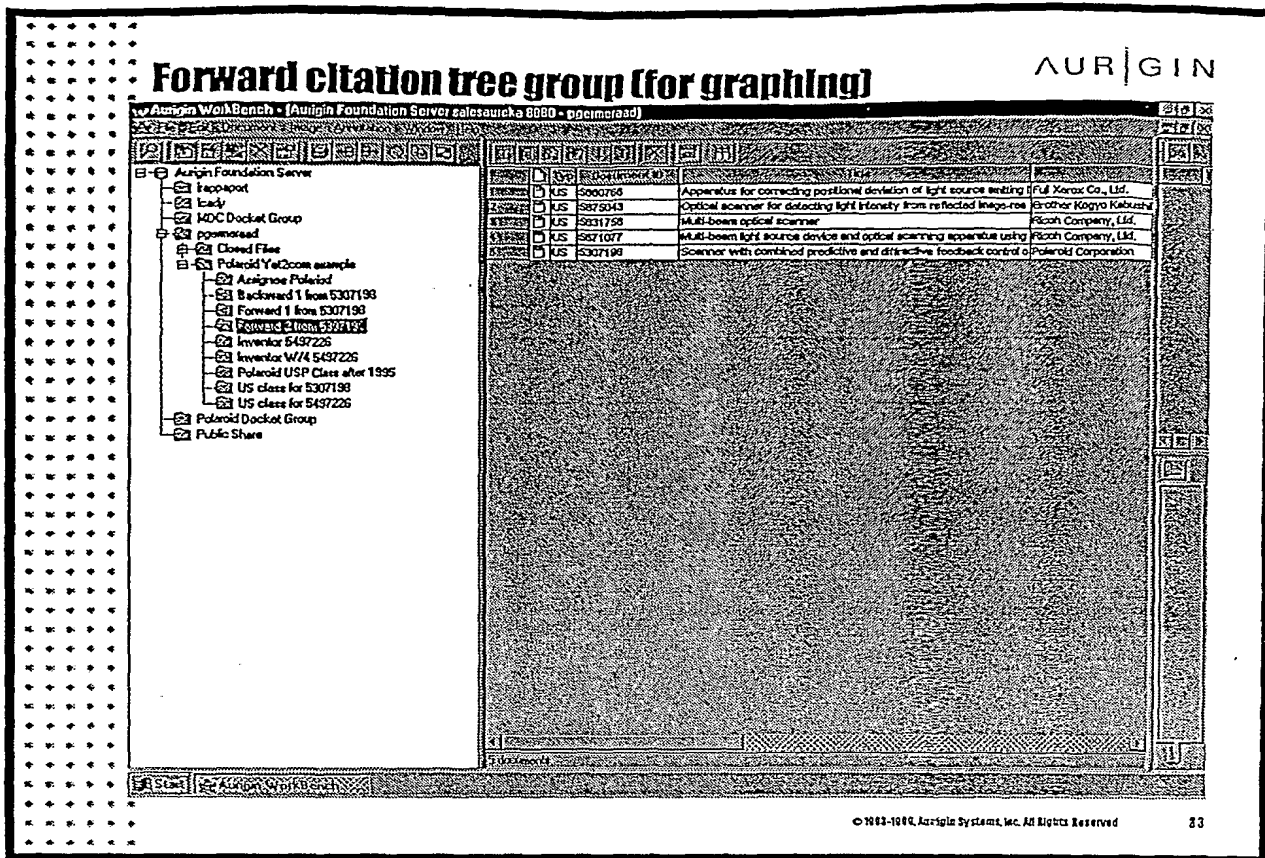


FIG. 75



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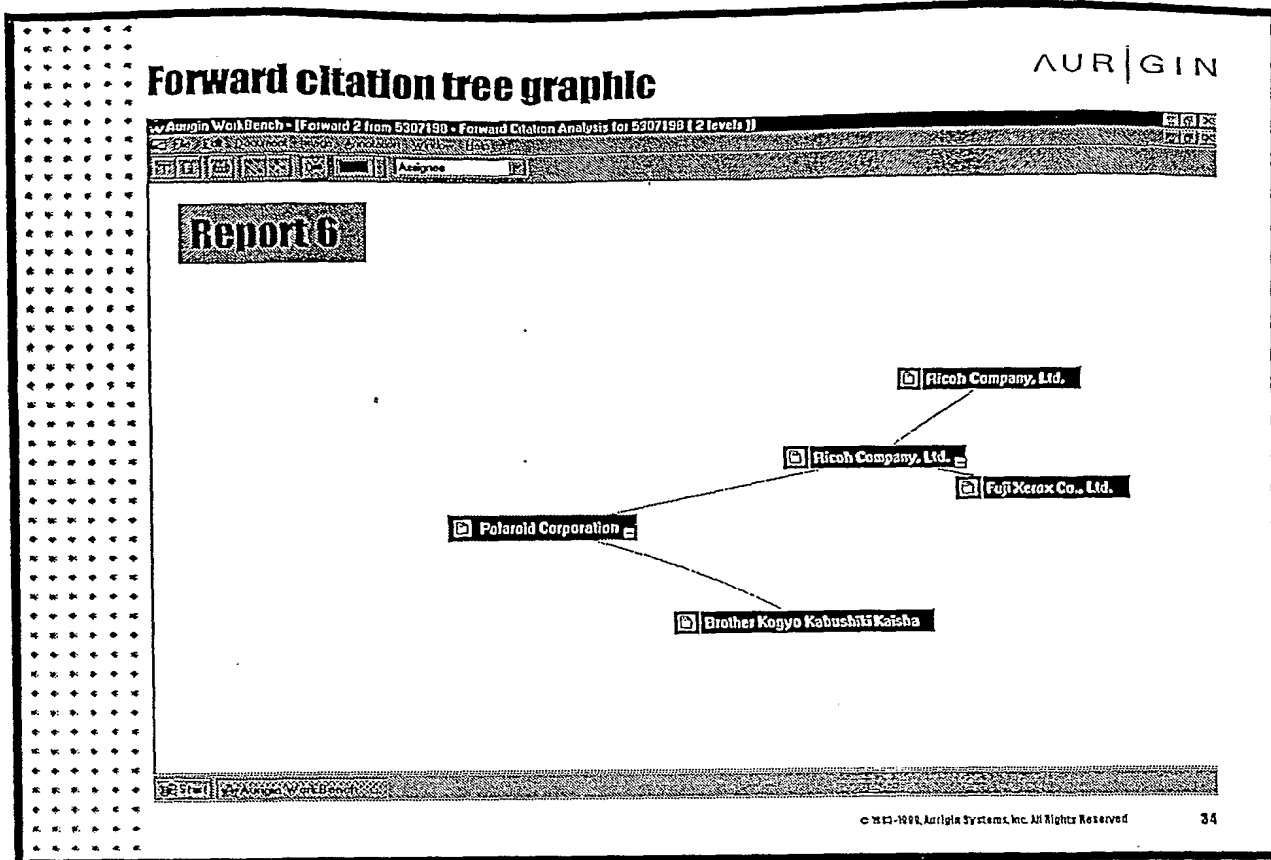


FIG. 77

Other patents in the same US class(es)

AUR|GIN

The screenshot displays the Aurigin Foundation Server web interface. On the left is a navigation tree with folders like 'kappaport', 'lady', 'MOC Docket Group', 'pgmoad', 'Closed Files', and 'Polaroid Yet2com example'. The main content area shows a 'Search' window with the following details:

- Group:** Aurigin Foundation Server
- Document Category:** US Patents
- Document Type:** EPATENT/USPATENT
- Document Subtype:** JEP8 Patents, JCT Applications
- Document ID:** 556/4,01 OR 556/256
- Document Title:** 556/4,01 OR 556/256
- Document Date:** 1/1/1995
- Document Author:** -Any-
- Document Status:** -Any-
- Document Language:** English
- Document Format:** Standard
- Document Size:** 1/1/1995
- Document Type:** JEP8 Patents, JCT Applications
- Document Subtype:** JEP8 Patents, JCT Applications
- Document ID:** 556/4,01 OR 556/256
- Document Title:** 556/4,01 OR 556/256
- Document Date:** 1/1/1995
- Document Author:** -Any-
- Document Status:** -Any-
- Document Language:** English
- Document Format:** Standard
- Document Size:** 1/1/1995

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FIG. 78

Listed patent US class search results

AUR|GIN

Auriga WorkBench - (Auriga Foundation Server salescode 8000 - pgeimlead)			
Auriga Foundation Server			
<ul style="list-style-type: none"> trappaport leady MOC Docket Group pgimlead Closed File Polard YelZoom example <ul style="list-style-type: none"> Assignee Polard Backward 1 from 5307199 Forward 1 from 5307199 Forward 2 from 5307199 Inventor 5437225 Inventor W/ 5437225 US 5307199 US class for 5437225 Polard Docket Group Public Share 			
Patent No.	Class	Title	Assignee
US 5307199	US	Optical responsive parametric amplified phase conjugate signal laser	The United States of
US 5307199	US	Non-contact interference optical system for measuring the length of	Radical Research Co
US 5307199	US	Optical apparatus for measuring profiles of a wafer	Super Silicon Co
US 5307199	US	Thermal object measuring apparatus	Mitsubishi Electric
US 5307199	US	Photo-electric position measuring system having a scanning grating	Dr. Johannes Holder
US 5307199	US	Solution process for accurately combining multiple sets of images	Vesco Corporation
US 5307199	US	Process and device for high-definition measurement of intervals in the	Carl Zeiss Jena
US 5307199	US	Method for determining the position of targets in three dimensional space	Leica AG
US 5307199	US	Optical encoder for detection having a moving reference point	Mitsubishi Electric
US 5307199	US	Increased accuracy and resolution for optical position sensors	Alcatel
US 5307199	US	Optical position-measuring device having reference mark graduation	Dr. Johannes Holder
US 5307199	US	Method for absolutely measuring the deflection grating spacing and	Korea Research Inst
US 5307199	US	Multiplexable optical fiber displacement, strain acceleration and pres	Canon Kabushiki Ka
US 5307199	US	Displacement detection apparatus and drive control apparatus using	Canon Kabushiki Ka
US 5307199	US	Laser along-body tracker comprising laser beam diverging	TRW Inc.
US 5307199	US	Neer normal incidence optical assembly method and system having	TRW Inc.
US 5307199	US	Method and apparatus for improving the accuracy of laser range fin	Asia Optical Co., Inc
US 5307199	US	Modulated laser-based survey system	Laser Technology, I
US 5307199	US	Adaptive focal plane for high contrast imaging	TRW Inc.
US 5307199	US	Focus monitor for alternating phase shifted masks	International Business
US 5307199	US	Tracking means for distant ballistic missile targets comprising means	TRW Inc.
US 5307199	US	Vehicular optical radar apparatus	Mitsubishi Denki Kab
US 5307199	US	Hand-held distance-measurement apparatus and system	Canon Kabushiki Ka
US 5307199	US	Apparatus having an afocal lens system used in optical measurements	Canon Kabushiki Ka
US 5307199	US	Compact laser-based distance measuring apparatus	Laser Technology, I
US 5307199	US	Laser range finder with target quality display	Burnett Corporation
US 5307199	US	Spectroscopic helical separator and fluid sample interface	UCP LLC
US 5307199	US	Linear encoder using diverging light beam diffraction	Board of Trustees o
US 5307199	US	Interdigital deflection sensor for microdisplacement	Mitsubishi Electric
US 5307199	US	Optical displacement measurement device and optical displacement	Grwth Sick GmbH Co
US 5307199	US	Method and apparatus for checking a predetermined monitoring area	Grwth Sick GmbH Co
US 5307199	US	Hand-held distance-measurement device with an enhanced viewfin	Lockheed Martin Cor
US 5307199	US	Method for increasing LADAR resolution	Lockheed Martin Cor
US 5307199	US	Optical radar apparatus	Mitsubishi Denki Kab
US 5307199	US	Interferometric method and apparatus for measuring surface and method	Schweitzer Electronic

FIG. 79

Creating report on Other assignees in same class

AUR|GIN

The screenshot displays the Aurigin Workbench software interface. On the left, a file explorer shows a tree structure under 'Aurigin Foundation Server' with folders like 'trappaport', 'tbody', 'MDC Docket Group', 'pgsmexad', 'Closed Files', and 'Polard YelZoom example'. The 'Polard YelZoom example' folder is expanded, showing a list of patent entries including 'Assignee Polard', 'Backward 1 from 5307198', 'Forward 1 from 5307198', 'Forward 2 from 5307198', 'Inventor 5497226', 'Inventor W/A 5497226', 'US 5307198', and 'US class for 5497226'. The central workspace features a 'Patent Report' window with a 'Assignee - Patent Count Report' tab. The report shows a list of patents with columns for 'Patent No.', 'Inventor', 'Assignee', and 'Title'. The bottom of the interface shows a 'Start' button and the 'Aurigin Workbench' logo.

Patent No.	Inventor	Assignee	Title
US 5903355			Method and apparatus for checking a predetermined monitoring area
US 5936484			Hand-held distance-measurement device with an enhanced viewfinder
US 5936483			Method for increasing LADAR resolution
US 5936482			Optical radar apparatus
US 5936481			Method and apparatus for checking a predetermined monitoring area

FIG. 80

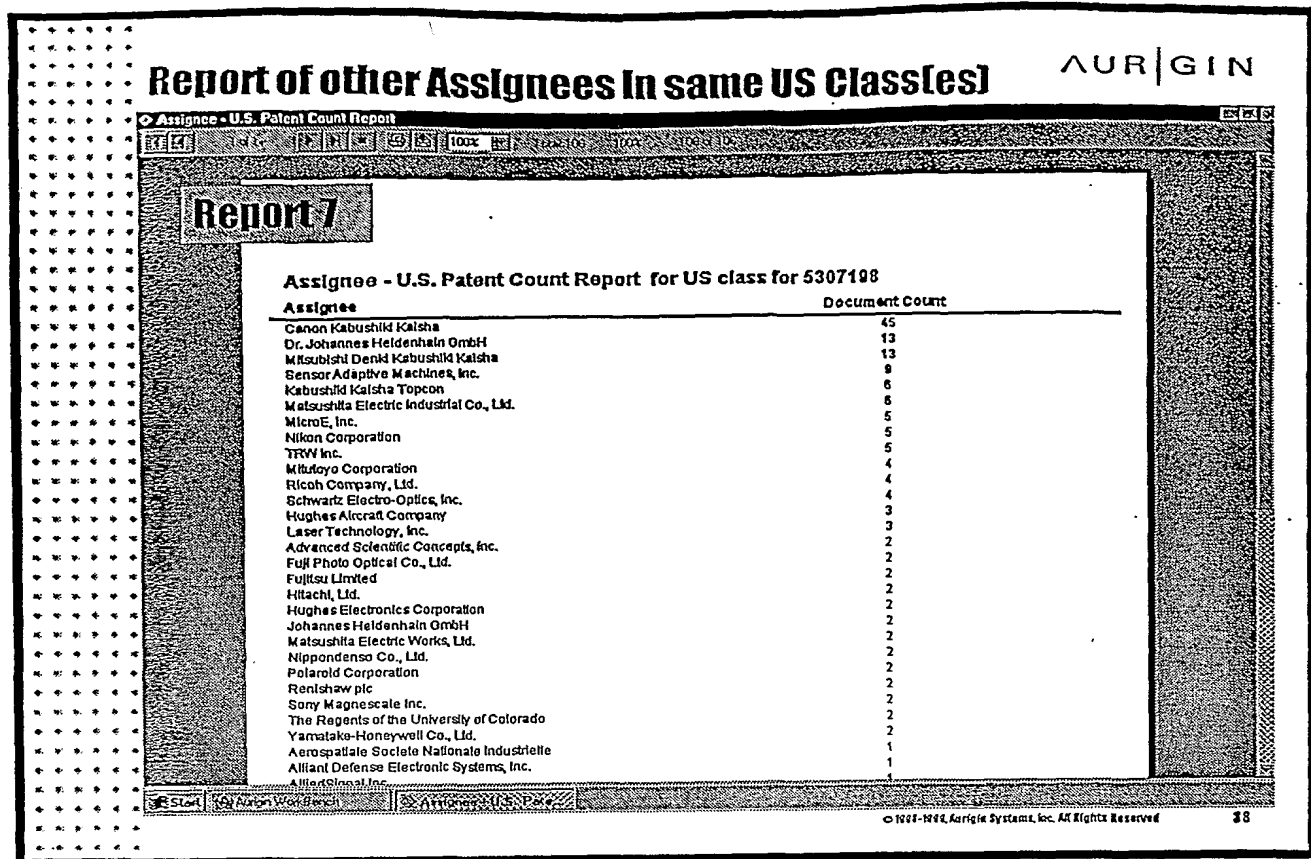


FIG. 81

Search for assignee's work in US class

AURGIN

The screenshot shows a Windows 95 desktop environment. A file explorer window is open, displaying a search results list. The search criteria are 'US Patents' and 'EPUS Patents'. The results list includes various patents such as 'Optical encoder for detecting relative displacement based on signals' and 'Image retarding apparatus'. The window title is 'Search' and the search criteria are 'All SmartFind & Summary documents'. The results list is sorted by 'Name' and shows the following entries:

File Name	File Type	File Size	File Date	File Location
US Patents	Text Document	1,171,195	1/1/1995	...
EPUS Patents	Text Document	1,171,195	1/1/1995	...
Optical encoder for detecting relative displacement based on signals	Text Document	1,171,195	1/1/1995	...
Image retarding apparatus	Text Document	1,171,195	1/1/1995	...

FIG. 82

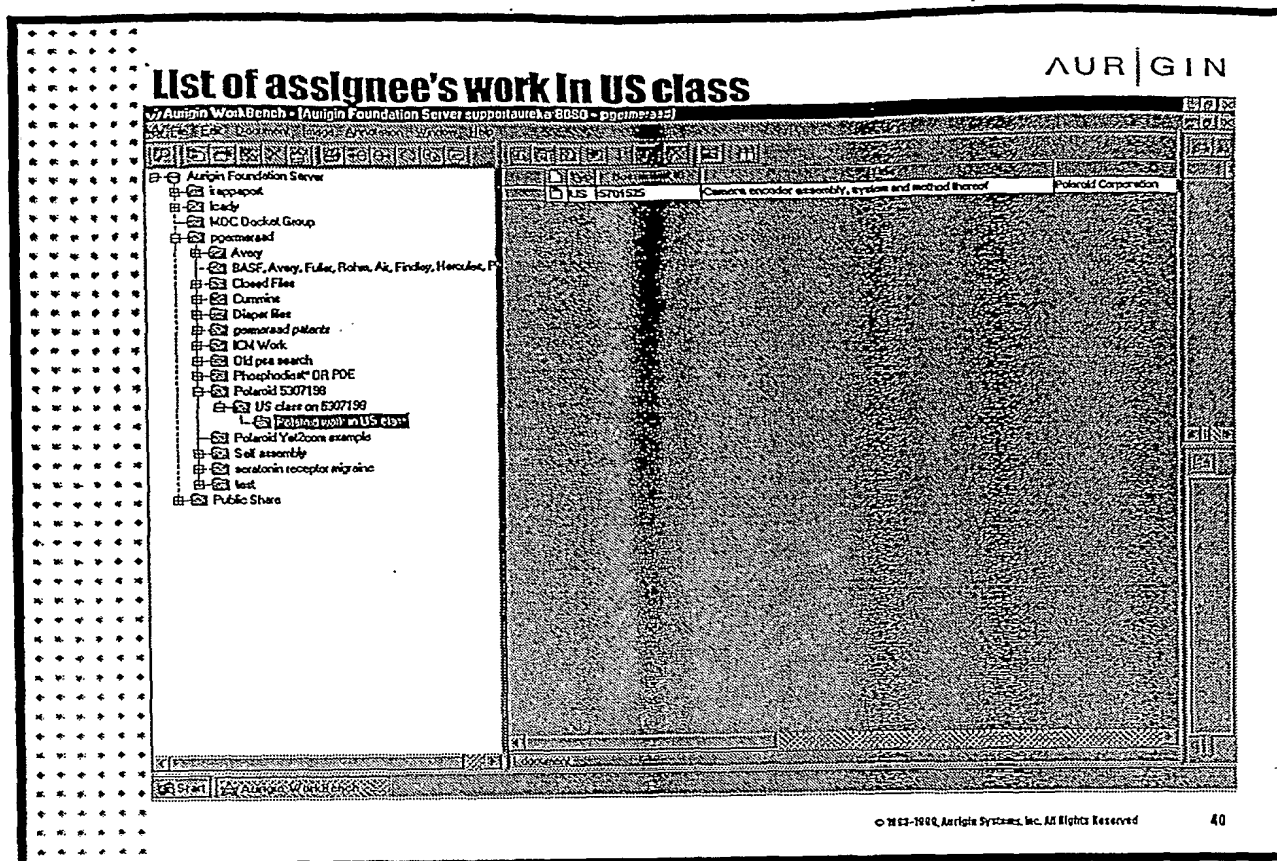


FIG. 83

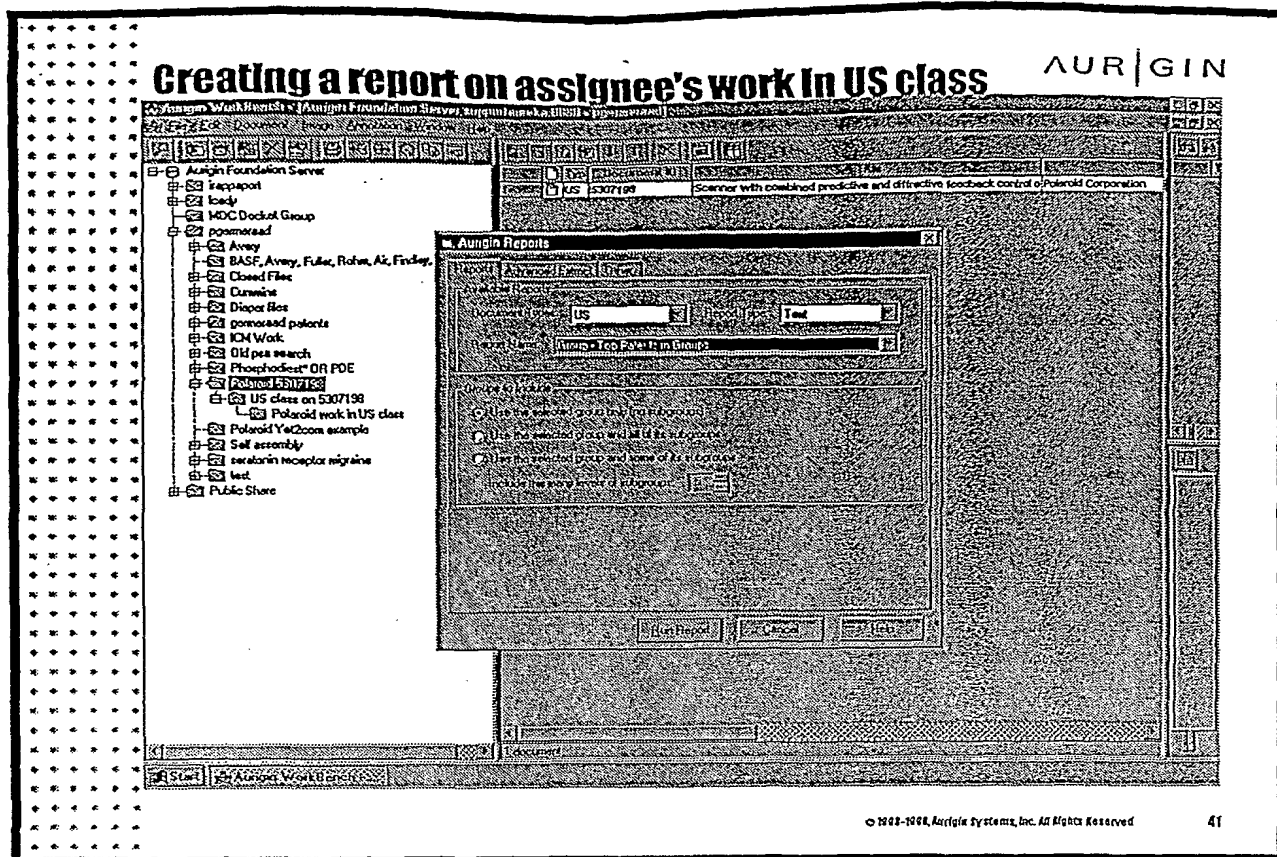


FIG. 84

Report of listed patent assignee in US class

AUR|GIN

Group - Top U.S. Patents in Groups

Report 8

Group - Top U.S. Patents in Groups for Polaroid 5307198

Document	Title	Issue Date	Group Count
5307198	Scanner with combined predictive and distractive feedback control of beam position	04/26/1994	1

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FIG. 85

Creating a report on other Inventors/partnerships In US class

AURGIN

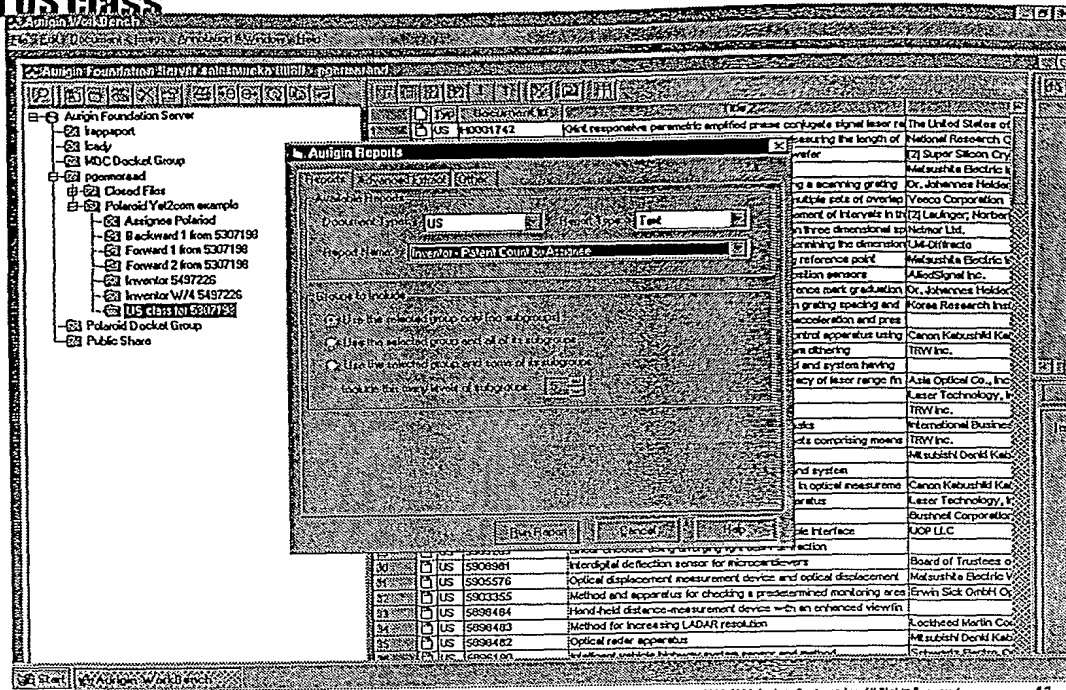


FIG. 86

Report of Inventors/partnerships In US class

AUR|GIN

Inventor - U.S. Patent Count by Assignee

Report 9

Inventor - U.S. Patent Count by Assignee for US class for 5307198

Inventor Name	Assignee	Document Count
Ishizuka, Koh	Canon Kabushiki Kaisha	$\frac{11}{11}$
Kaneda, Yasushi	Canon Kabushiki Kaisha	$\frac{11}{11}$
Hageniers, Omer L.	LMI-Diffracto Sensor Adaptive Machines, Inc.	$\frac{1}{9}$ $\frac{10}{10}$
Hockley, Bernard	LMI-Diffracto Sensor Adaptive Machines, Inc.	$\frac{1}{9}$ $\frac{10}{10}$
Liptay-Wagner, Nick	LMI-Diffracto Sensor Adaptive Machines, Inc.	$\frac{1}{9}$ $\frac{10}{10}$
Pryor, Timothy R.	LMI-Diffracto Sensor Adaptive Machines, Inc.	$\frac{1}{9}$ $\frac{10}{10}$
Pastorius, W. J.	LMI-Diffracto Sensor Adaptive Machines, Inc.	$\frac{1}{9}$ $\frac{10}{10}$

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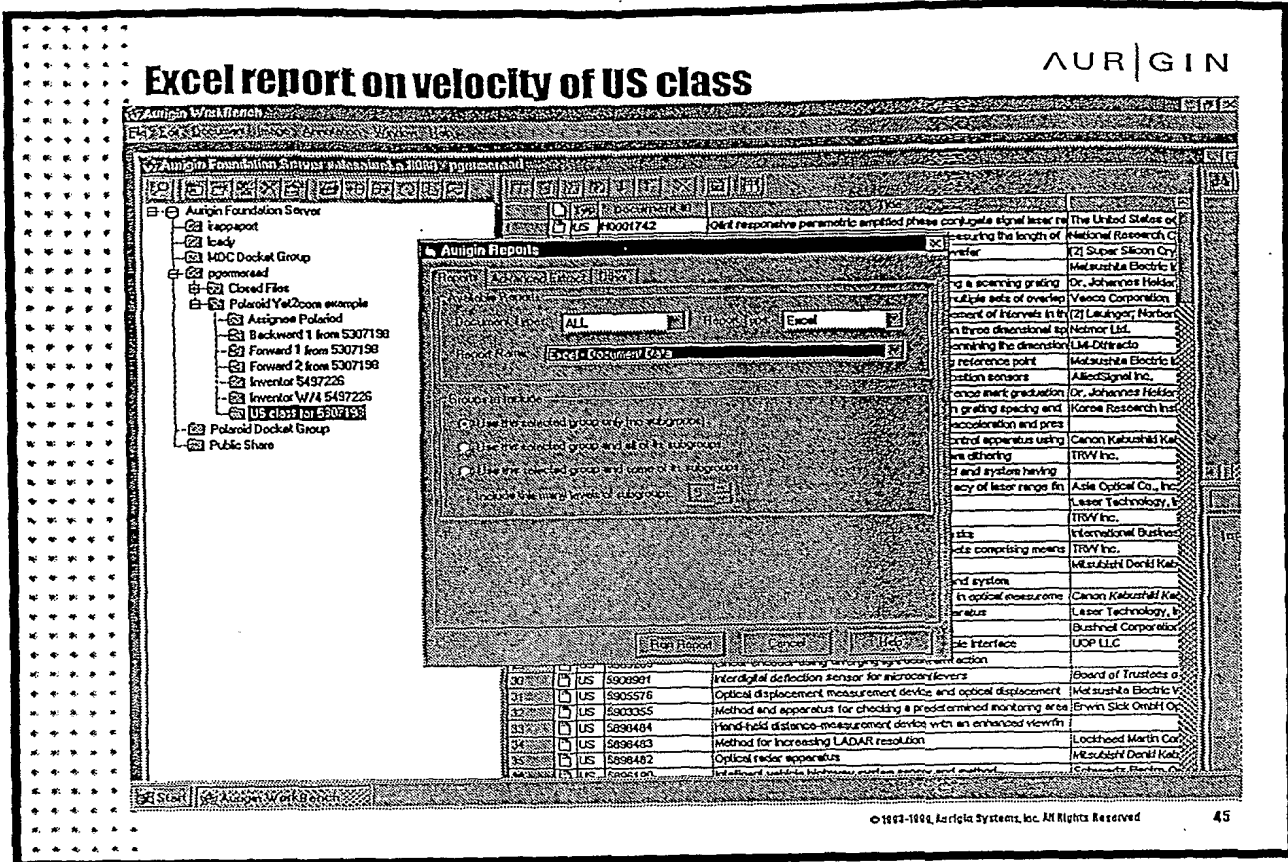


FIG. 88

Excel report of US class

AUR|GIN

Microsoft Excel - Book1						
A1 Document ID						
Document ID	Title	Issued	Expires	pub organization id	document number	
53001742	Glint responsive parametric amplified phase con	8/4/95	3/2/18	US	53001742	
5306291	Displacement sensor including a heat insulating	1/31/95	1/31/12	US	5306291	
5308115	Absolute measuring apparatus using laser and s	2/7/95	2/7/12	US	5308115	
5390022	Displacement information detection apparatus for	2/14/95	2/14/12	US	5390022	
5402223	Electronic survey stadia	3/20/95	3/20/12	US	5402223	
5404220	Measuring method and measuring apparatus for	4/4/95	4/4/12	US	5404220	
5406320	Workpiece having alignment marks for positioni	4/18/95	4/18/12	US	5406320	
5414514	On-axis interferometric alignment of plates usin	5/9/95	5/9/12	US	5414514	
5416321	Integrated apparatus for mapping and characteri	5/16/95	5/16/12	US	5416321	
5424829	Apparatus wherein diffracted light does not retu	6/13/95	6/13/12	US	5424829	
5424833	Interferential linear and angular displacement app	6/13/95	6/13/12	US	5424833	
5428445	Interferential position measuring device	6/27/95	6/27/12	US	5428445	
5430546	Optical device for measuring relative position of	7/14/95	7/14/12	US	5430546	
5434662	Speckle resistant method and apparatus with cha	7/18/95	7/18/12	US	5434662	
5436724	Apparatus for measuring relative movement using	7/25/95	7/25/12	US	5436724	
5446281	Optical sensor with movable refraction element to	8/29/95	8/29/12	US	5446281	
5448529	3D imaging underwater laser radar	8/29/95	8/29/12	US	5448529	
5448366	System for measuring tilt of image plane of opti	9/5/95	9/5/12	US	5448366	
5448366	Detecting device using a semiconductor light sou	9/5/95	9/5/12	US	5448366	
5448367	Position detecting system for detecting a positio	9/5/95	9/5/12	US	5448367	
5450199	Photoelectric position indicator with a light-direct	9/12/95	9/12/12	US	5450199	
5455148	Apparatus and method for detecting the relative p	11/7/95	11/7/12	US	5455148	
5459250	Passive optical wind profilometer	11/21/95	11/21/12	US	5459250	
5471050	Photoelectric conversion method and apparatus t	11/28/95	11/28/12	US	5471050	
5471302	Interferometric probe for distance measurement u	11/28/95	11/28/12	US	5471302	
5475494	Driving environment surveillance apparatus	12/12/95	12/12/12	US	5475494	
5483059	Signal processing method using comparator level	1/5/96	1/5/13	US	5483059	
5484026	Handheld electromotive tool with sensor	1/16/96	1/16/13	US	5484026	
5485263	Optical path equalizer	1/16/96	1/16/13	US	5485263	
5486918	Optical wavelength meter with an up-down count	1/23/96	1/23/13	US	5486918	

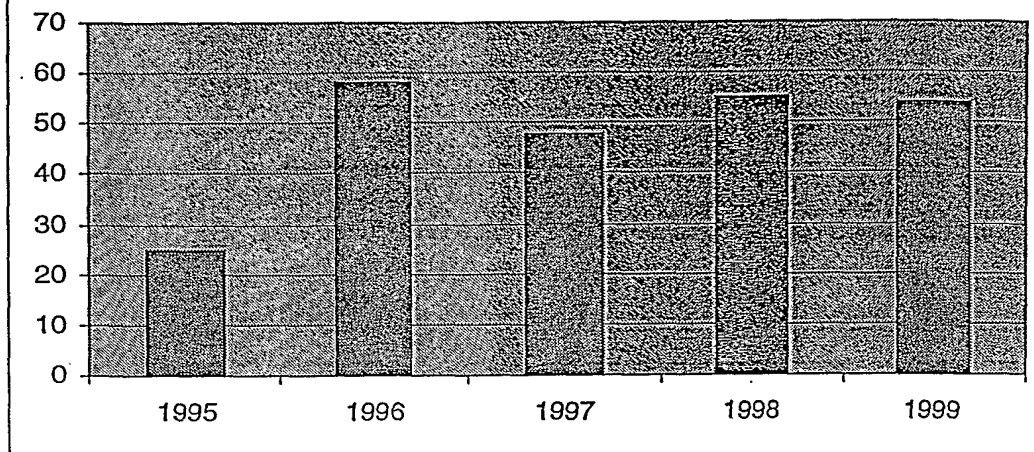
FIG. 89

Excel Graph of patent velocity in US class(es)

AUR|GIN

Report 10

patents



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FIG. 90

Flowchart of the Stages of a Business

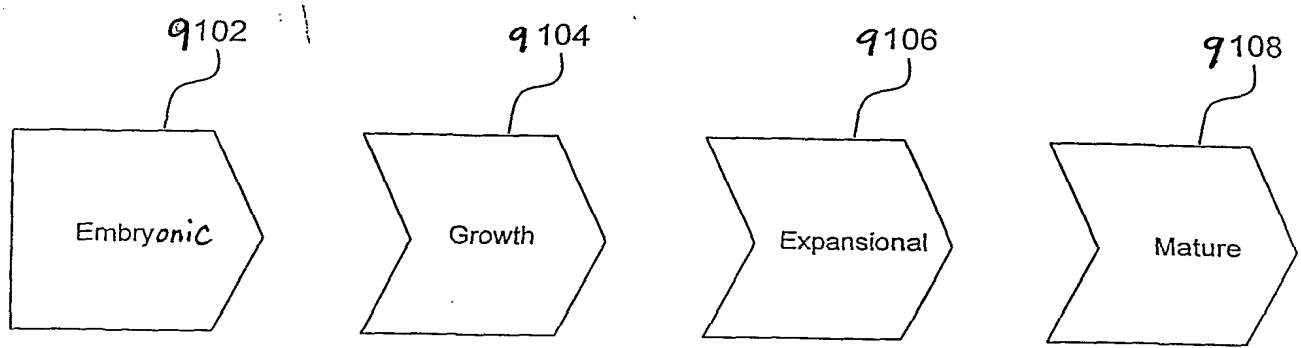


FIG. 91

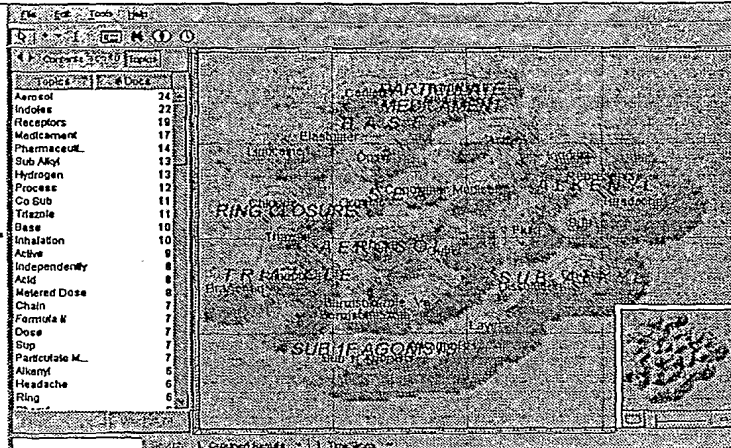
Aurigin Business Analysis Tools For General Managers

		Business Stages				Patent Portfolio Review	
		Embry	Growth	Expansion	Mature		
TOOLS							
9202	Topographic map	Overall view of related art, uses, competitors	9102	9104	9106	9108	30
9204	Features Grouping	Overall view of feature set to offer					31
9206	Portfolio Actions map	Overall view of what to do with specific patents in portfolio			15	23	32
9208	Core Technologies Map	Which technical fields are essential to business success			16	24	33
9210	Related Markets Map	Which market segments can use similar product and services			17	25	34
9212	Patent Activity Chart	How fast is product / use technology changing	2	3			
9214	Patent Activity by Company Chart	How fast is the technology changing with competition			18	26	
9216	Recent Patent Applications Chart	Which other companies are active in project area	3	10			
9218	Technology by Company map	Technical assessment of serious competitors and partners					35
9220	Patent Citation Tree	View of which companies can block and/or circumvent other's patents					36
9222	Nested Patent Citation Tree	Prediction of related technology / markets under exploration	4	11	19		
9224	Product / Patent / Revenue Table	Which products, and their revenue stream size, are protected by patents	5	12	20	27	37
9226	Document Annotation	Immediate, linked, searchable documentation of facts and Ideas	6	13	21	28	38
9228	Time Remaining on Patents	How long is art protected by patents	7	14	22	29	39

FI G.92

Tool#30 Topographic Map

Created by assignee, Boolean and natural language searches on the products, uses and technologies covered in the company's patent portfolio. This group is formed in Aureka and exported to Cartia.



Cartia's ThemeScape creates conceptual visualizations of similar technologies and markets. The x-y plane shows related concepts in relative proximity. In the z-axis, forming mountains and valleys, is the frequency of concepts represented in the patent group. The major concepts represented by this map are the drug entities, formulations, and delivery means related to migraine headaches.

During the portfolio review process these maps show the management team the breadth of their and other's portfolios so they can see at a glance if they are a niche player in IP, or have a broad base to take advantage of. Looking at time slices of the map the team can see which areas are currently active and which are maturing. The technical and business resources can knowledgeably be deployed on this information. Marking key competitors on the map, and comparing their activity to their own, management can also determine if additional or fewer technical and marketing resources are appropriate to deploy.

FIG 93

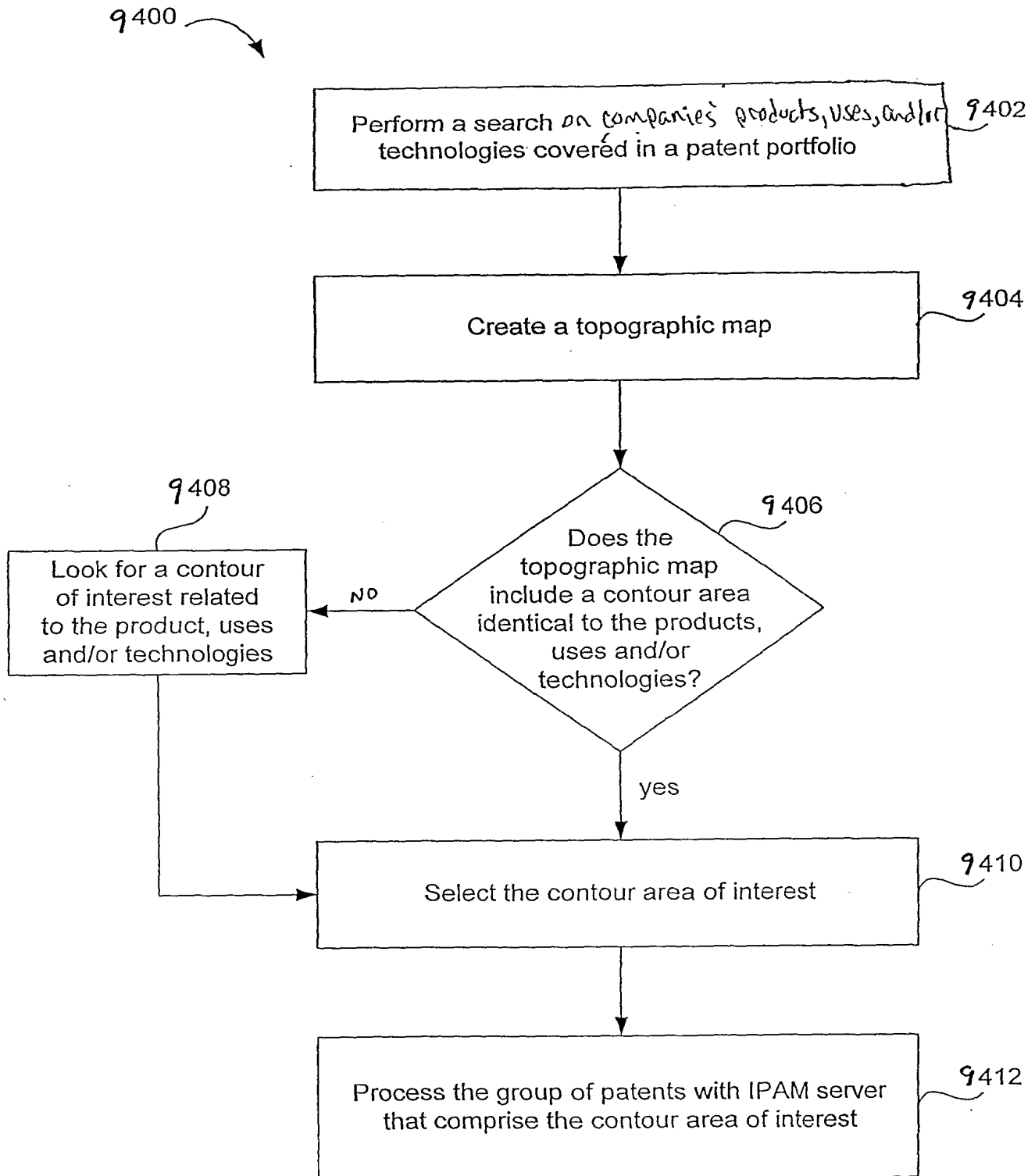
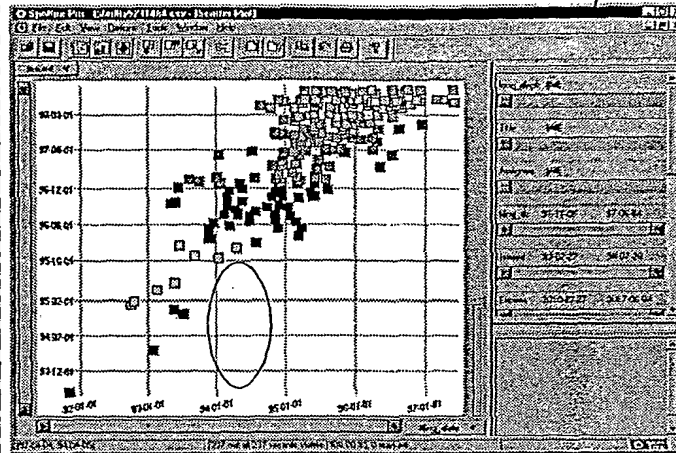


FIG. 94

Tool#31 Features Grouping

9204

Product attributes are analyzed by reverse engineering company's own and competitor's products. The results are put in a database and sorted and grouped to create interactive maps of patented product or service features. Patents covering each product and feature are also entered into the database.



The maps can be looked at feature-by-feature and they show the competitive alternatives and how many products have properties closest to those claimed by the company's patents.

Highlights distinctive features that other technologies and business models can provide. The maps highlight how close other companies' products and services are to the company's products, and which of those products are patent protected. The management team can quickly sort for those feature sets which produce value and determine at a glance if intellectual property concerns should be a central part of their decision process of which products to promote and build upon, and which to let languish. High level trends can be seen in these maps showing a tendency of one company to be possibly infringing another's patents on a broad (many) or narrow (few) scale.

FI 6.95

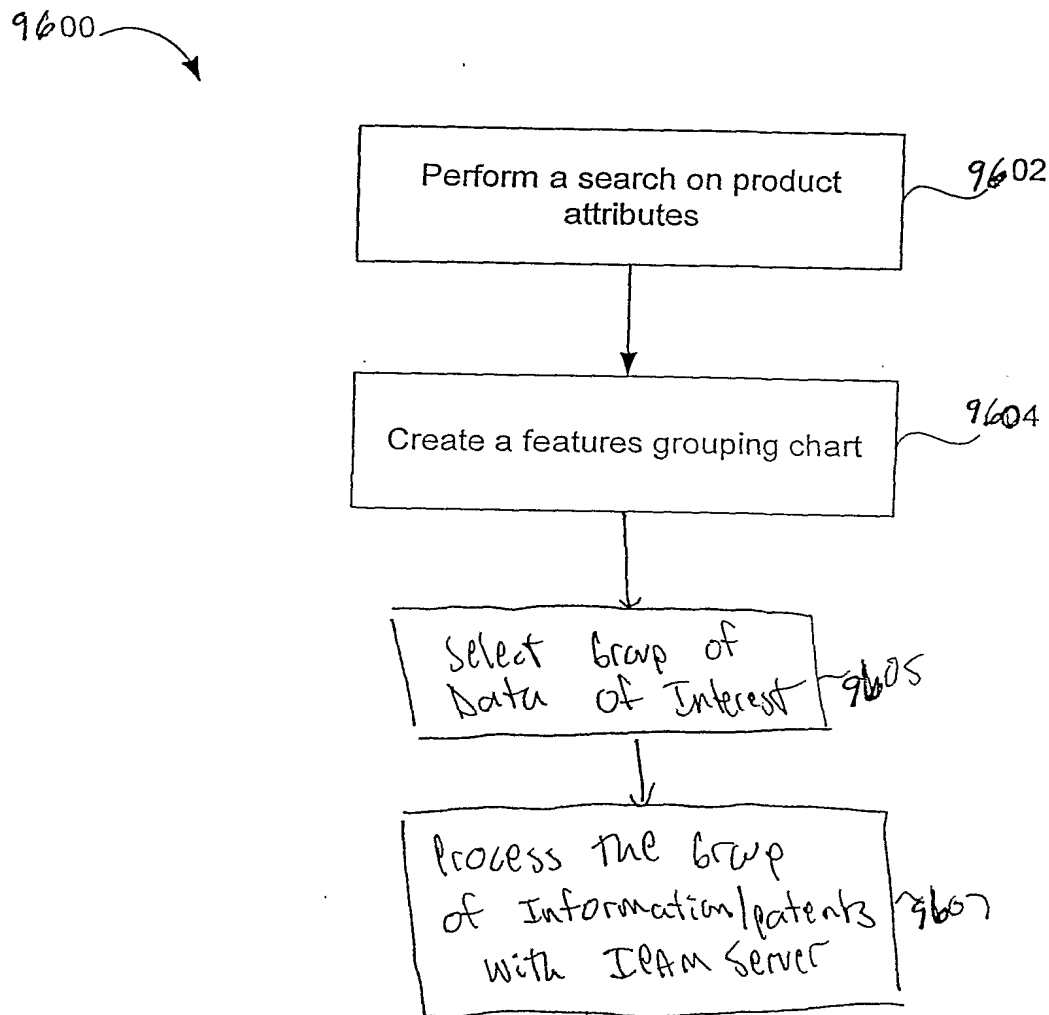


FIG.96 :

Tool #1 Embryonic Business Portfolio Actions Map

Created by searching for the Division's patents, making a group, sorting the group into which business it pertains to by dragging and dropping the patent from the center pane into folders corresponding to each business division. These business division folders and then opened into the center pane, the patents viewed one by one, and dragged and dropped into sub-folders corresponding to the BU direction. Plotting patents, applications, and invention disclosures coming from within division on grid and apply template.

Business Cycle	Business Unit and Corporation Direction			
		Commercial	Strategic	Potentially Strategic
	Embryonic Business	Seek CIP's		
	Other Corporate Business	Donate to Appropriate Business Unit		
	Non-Corporate Business	License or Abandon		

~9206

The implication is that a small team can immediately assign patents to a specific course of action in a fraction of the time required by traditional means of analyzing the paper version of the patents by a few individuals. Since embryonic businesses need to focus their efforts, use of this chart helps them focus on building CIP's only on art that will directly affect their business. All other art is removed from the business unit's plate.

FIG. 97

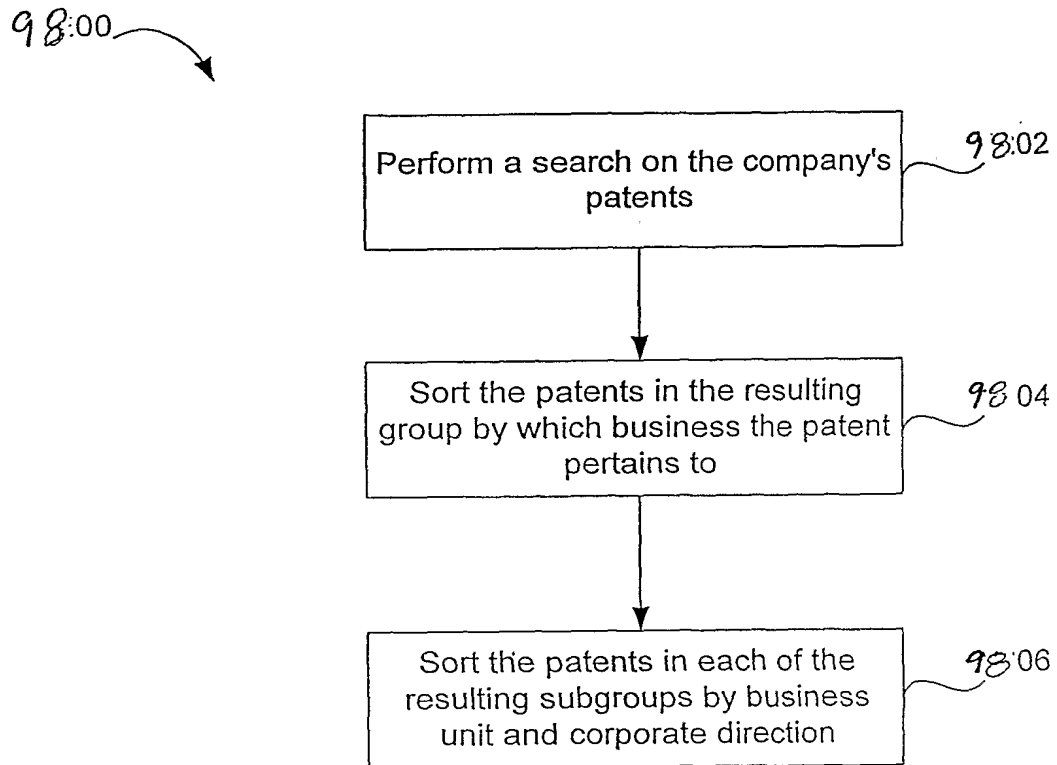


FIG. 18

Tool #8 Growth Business Portfolio Actions Map

Created by searching for the Division's patents, making a group, sorting the group into which business it pertains to by dragging and dropping the patent from the center pane into folders corresponding to each business division. These business division folders and then opened into the center pane, the patents viewed one by one, and dragged and dropped into sub-folders corresponding to the BU direction. Plotting patents, applications, and invention disclosures coming from within division on grid and apply template.

Business Cycle	Business Unit and Corporation Direction			
		Commercial	Strategic	Potentially Strategic
	Growth Business	Seek CIP's		
	Other Corporate Business	Donate to Appropriate Business Unit		
	Non-Corporate Business	License or Abandon		

~9206

The implication is that a small team can immediately assign patents to a specific course of action in a fraction of the time required by traditional means of analyzing the paper version of the patents by a few individuals. Since growth businesses need to focus their efforts on both short term operations as well as focused strategic options, use of this chart helps them focus on building CIP's only on art that will directly affect their business. All other art is removed from the business unit's plate.

FIG. 99

Tool #15 Expanding Business Portfolio Actions Map

Created by searching for the Division's patents, making a group, sorting the group into which business it pertains to by dragging and dropping the patent from the center pane into folders corresponding to each business division. These business division folders are then opened into the center pane, the patents viewed one by one, and dragged and dropped into sub-folders corresponding to the BU direction. Plotting patents, applications, and invention disclosures coming from within division on grid and apply template.

Business Cycle	Business Unit and Corporation Direction			
		Commercial	Strategic	Potentially Strategic
	Expanding Business	Maintain Patents		License
	Other Corporate Business	Donate to Appropriate Business Unit		
	Non-Corporate Business	License or Abandon		

9206

The implication is that a management team can immediately assign patents to a specific course of action in a fraction of the time required by traditional means using a few individuals. Since expansion businesses need to focus their efforts on broadened short term operations as well as future strategic options, use of this chart helps them focus on maintaining art that will protect their business. All other art is sold or licensed for revenue, or else donated or abandoned to reduce business unit expenses.

FIG. 100

Tool #23 Mature Business Portfolio Actions Map

Created by searching for the Division's patents, making a group, sorting the group into which business it pertains to by dragging and dropping the patent from the center pane into folders corresponding to each business division. These business division folders are then opened into the center pane, the patents viewed one by one, and dragged and dropped into sub-folders corresponding to the BU direction. Plotting patents, applications, and invention disclosures coming from within division on grid and apply template.

Business Cycle	Business Unit and Corporation Direction			
		Commercial	Strategic	Potentially Strategic
				Outside "Vision"
Mature Business	Maintain Patents	License	License or Abandon	
Other Corporate Business	Donate to Appropriate Business Unit			
Non-Corporate Business	License or Abandon			

The implication is that a management team can immediately assign patents to a specific course of action in a fraction of the time required by traditional means using a few individuals. Since mature businesses need to focus their efforts on costs and profits, use of this chart helps them focus on maintaining only that art that will protect their business. All other art is licensed or sold for revenue, or else donated or abandoned to reduce business unit expenses.

FIG. 101

Tool #32 Patent Portfolio Actions Map

Created by searching for the company's patents, making a group, sorting the group into which business it pertains to by dragging and dropping the patent from the center pane into folders corresponding to each business division. These business division folders are then opened into the center pane, the patents viewed one by one, and dragged and dropped into sub-folders corresponding to the BU & corporate direction. Patents are plotted on the grid, and color coded by business unit.

Business Cycle	Business Unit and Corporation Direction			
		Commercial	Strategic	Potentially Strategic
	Growth Business	Seek CIP's		
	Core Business		Maintain	Publish
	Mature Business		Abandon	

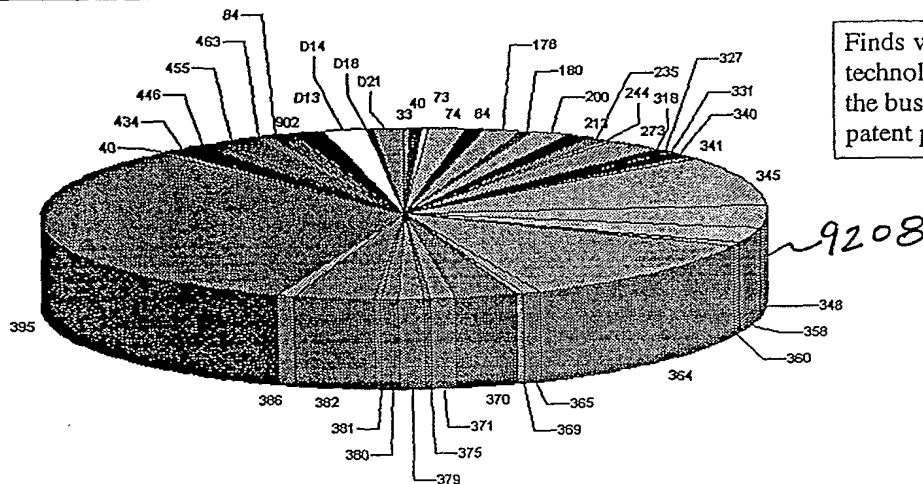
920'6

The location of each patent on this grid highlights the immediate course of action to be taken with that patent. The pattern created by the company's patents on this graph shows which business units are actively managing their intellectual property (shown by the absence of the business unit's colored dots in the abandon and license areas), and which are not.

FIG. 102

Tool #16 Expanding Business Core Technologies Map

This is created by searching each of the business unit's patents, and then exporting the results to Excel and graphing using the graph wizard to create a listing graph of the patent classifications



This chart gives the business unit a visual indication of their core technologies, and which are well covered versus which are sparse. Comparing this chart to the strategic intent of the business unit identifies how well their New Product Development activity (R&D and Marketing) is being managed.

FIG. 103

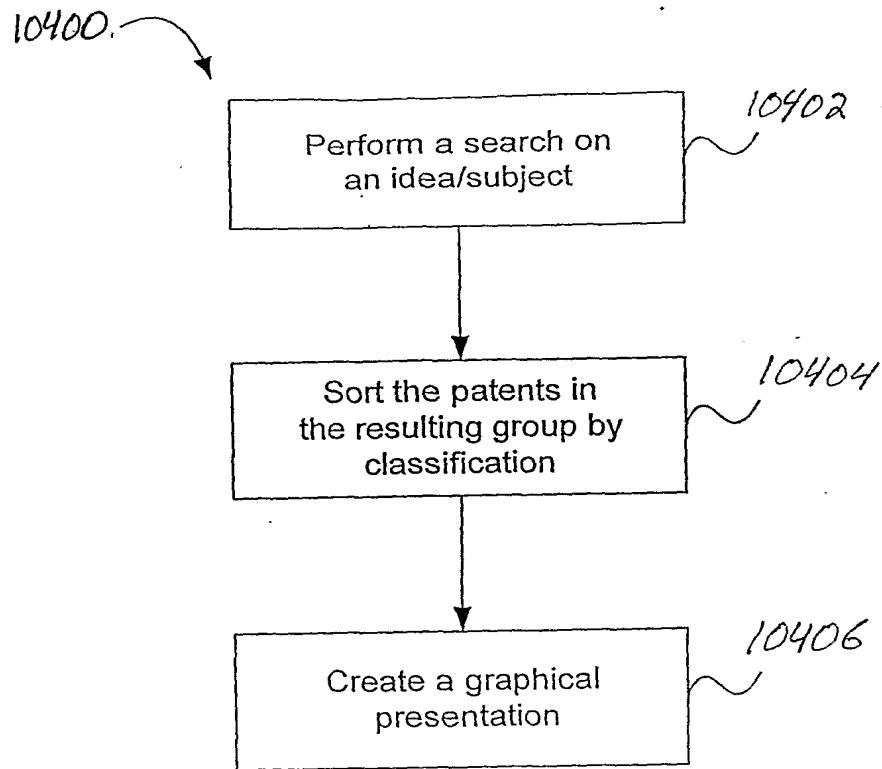
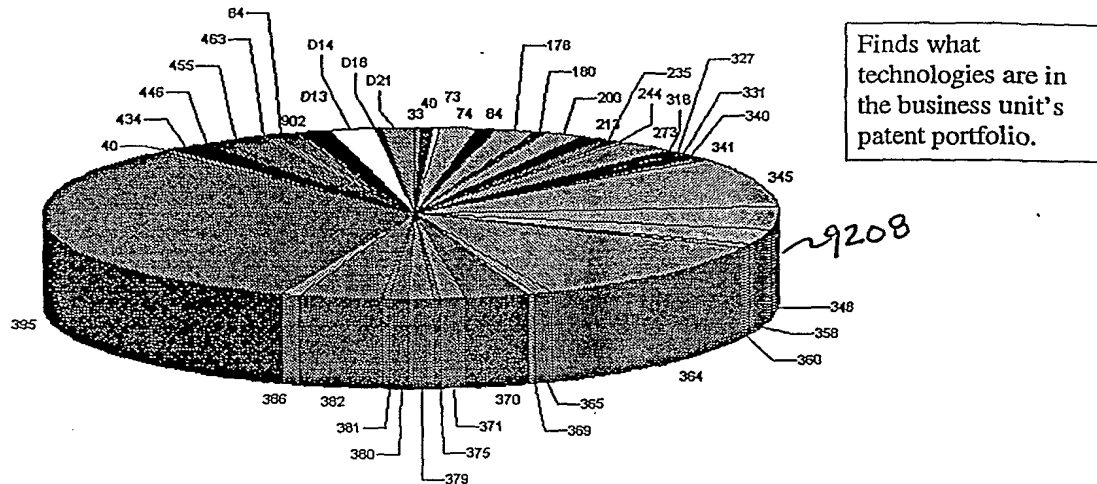


FIG. 104

Tool #24 Mature Business Core technologies map

This is created by searching each of the business unit's patents, and then exporting the results to Excel and graphing using the graph wizard to create a listing graph of the patent classifications

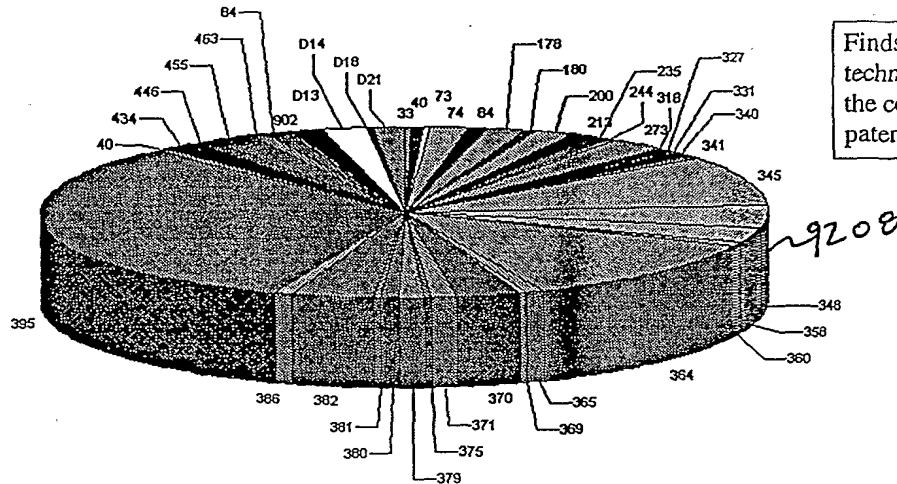


This chart gives the business unit a visual indication of their core technologies, and which are well covered versus which are sparse. Comparing this chart to the strategic intent of the business unit identifies how well their intellectual property is being managed.

FIG. 105

Tool#33 Company's Core Technologies Portfolio

This is created by searching each of the company's patents, and then exporting the results to Excel and graphing using the graph wizard to create a listing graph of the patent classifications



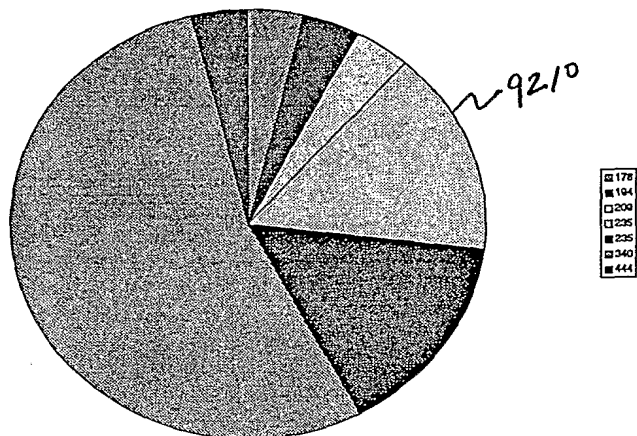
Finds what technologies are in the company's patent portfolio.

This chart gives the company a visual indication of their core technologies, and which are well covered versus which are sparse. Comparing this chart to the strategic intent of the business unit's identifies which business units are managing their intellectual property and which are not.

FIG. 106

Tool #17 Expanding Business related markets map

This is created by searching the business unit's patents, and then exporting the results to Excel. The classifications are run through a look-up table from a source such as the department of commerce patent/SIC concordance. The resulting SIC codes are graphed using the graph wizard to create a graph of the SIC classifications.



This chart shows in what markets the business unit participates, as well as which markets represent additional high growth opportunities.

The impact of this analysis is to identify for the management team the scope and magnitude of incremental new markets for the business unit's expanding goods, services, and manufacturing processes, weighted by the technical competencies the company possesses. It also highlights what other competitors might try and enter their expanding market segment.

FIG. 107

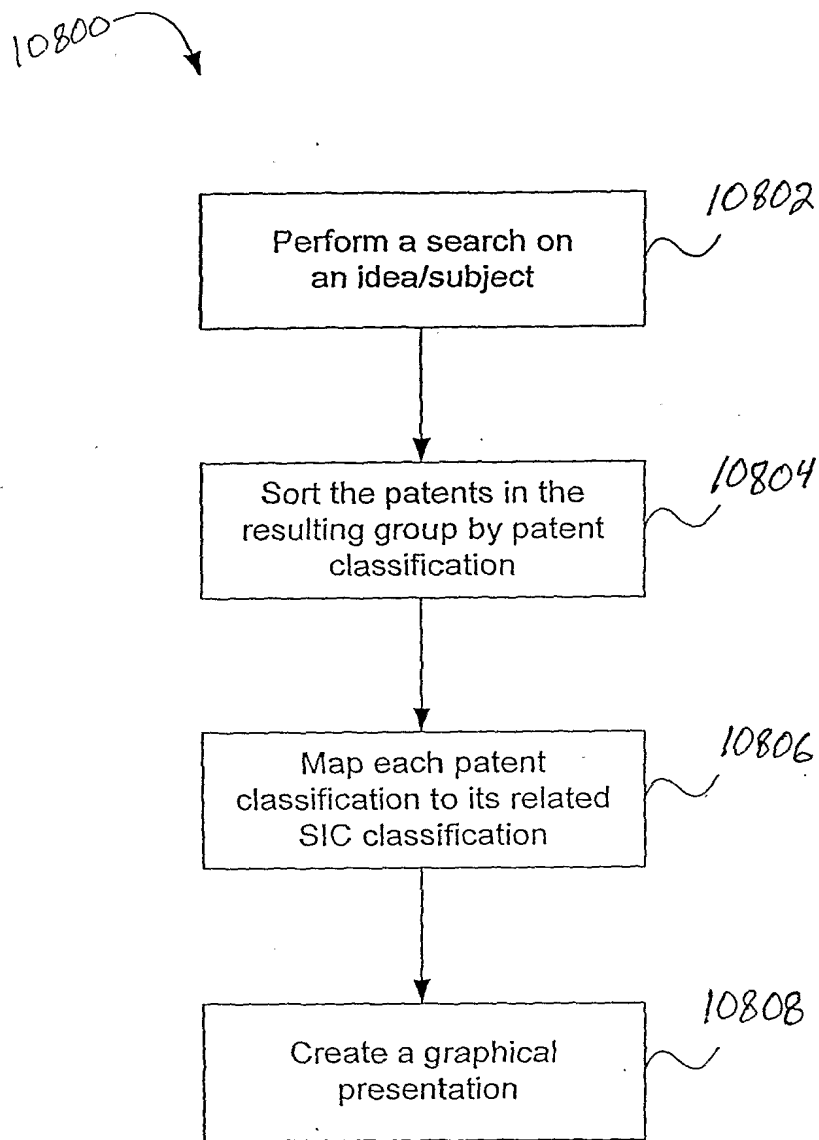
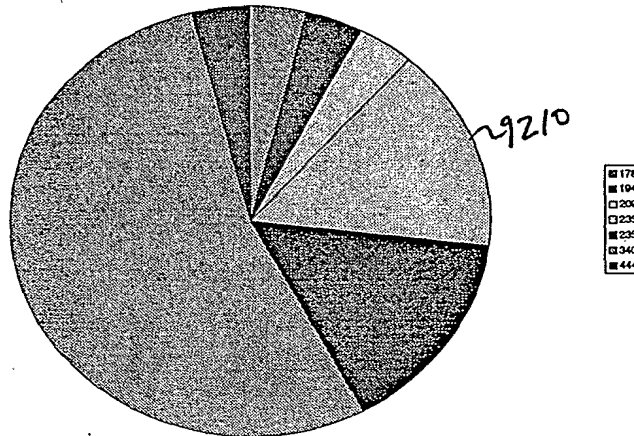


FIG. 108

Tool #25 Mature Business related markets map

This is created by searching the business unit's patents, and then exporting the results to Excel. The classifications are run through a look-up table from a source such as the department of commerce patent/SIC concordance. The resulting SIC codes are graphed using the graph wizard to create a graph of the SIC classifications.



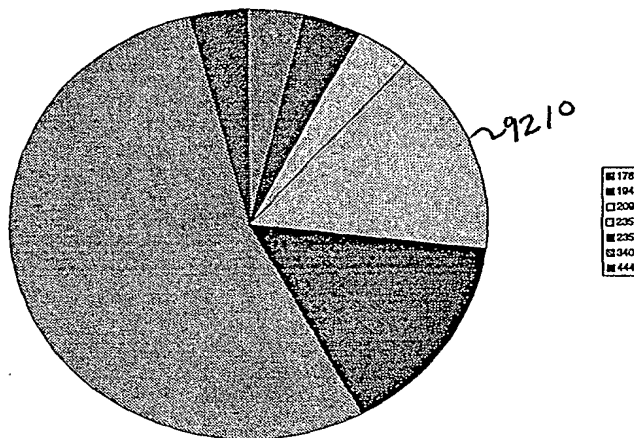
This chart shows in what markets the business unit participates, as well as which markets represent additional growth opportunities.

The impact of this analysis is to identify for the management team the scope and magnitude of incremental new markets for the business unit's maturing goods, services, and manufacturing processes, weighted by the technical competencies the company possesses.

FIG. 109

Tool #34 Company's related markets map

This is created by searching the company's patents, and then exporting the results to Excel. The classifications are run through a look-up table from a source such as the department of commerce patent/SIC concordance. The resulting SIC codes are graphed using the graph wizard to create a graph of the SIC classifications.



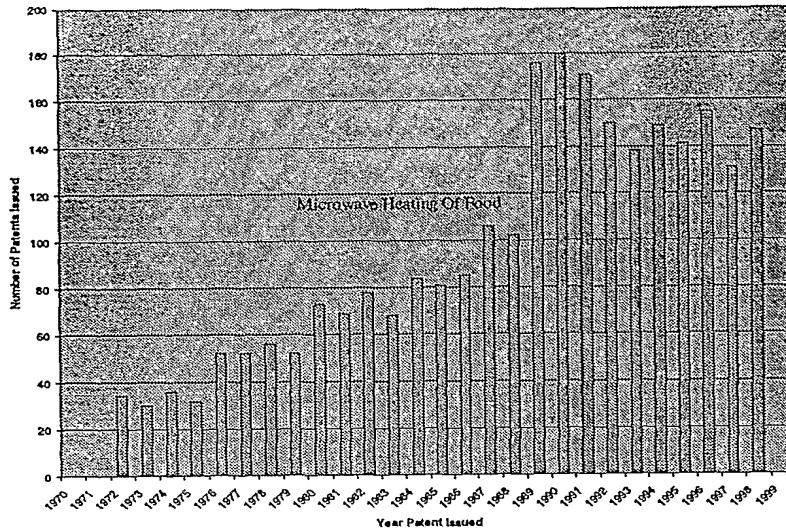
This chart shows in what markets the company participates, as well as which markets represent additional growth opportunities.

The impact of this analysis is to identify for the management team the scope and magnitude of potential markets for the company's goods and services, weighted by the technical competencies the company possesses.

FIG. 110 -

Tool #2 Embryonic Business Patent Activity Chart

This is created for each technology area of the business unit's patents. It is a standard Patent Count report of the Aureka system.



This chart identifies the speed of change in the business environment surrounding the embryonic business unit.

~9212

The business unit management team should direct their general activity to a rate that exceeds the industry average. Resources should be hired, or other units partnered with, to achieve this goal.

FIG. 111

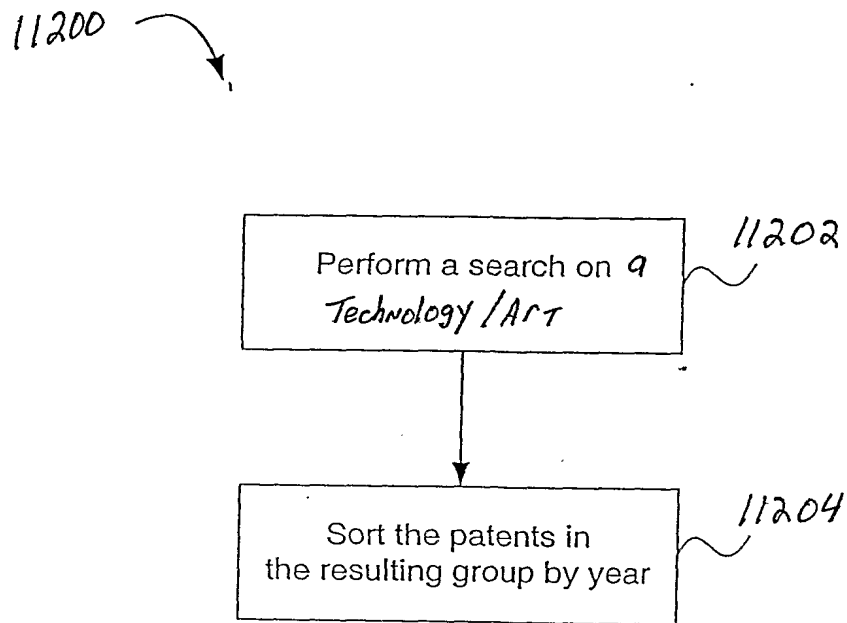
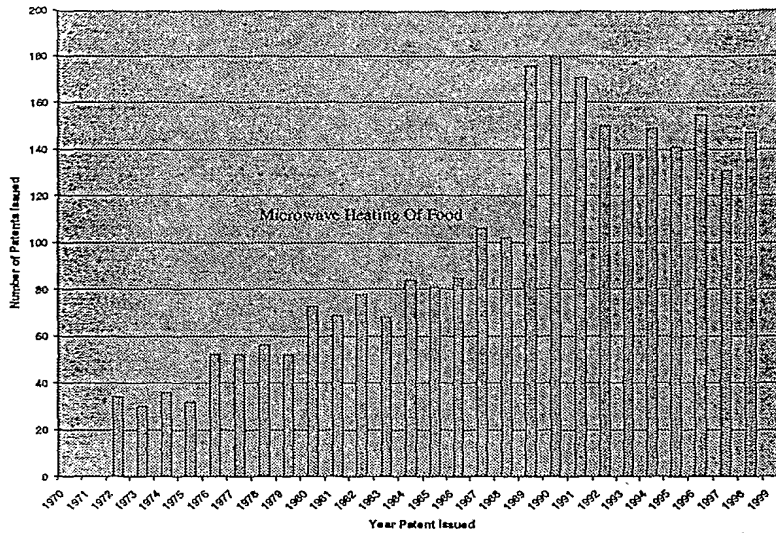


FIG. 112

Tool #9 Growth Business Patent Activity Chart

This is created for the last ten years for each technology area of the company's patents. It is a standard Patent Count report of the Aureka system.



This chart identifies the speed of change in the business environment surrounding the growth business unit.

~9212

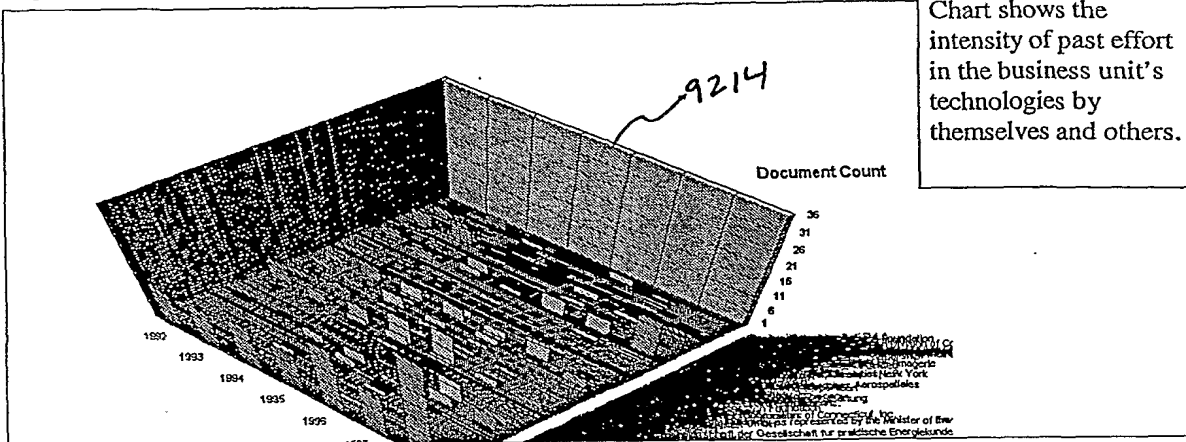
The business unit management team should direct their general activity to a rate that is the fastest in the industry. Resources should be hired, or other units partnered with, to achieve this goal.

FIG. 113

Tool #18 Expanding Business Patent Activity by Company Chart

This is created for the last ten years for each technology area of the company's patents in each of the major foreign countries. It is a standard Patent Count by Assignee report of the Aureka system when the foreign national patents are added as Corporate documents.

Assignee - Patent Count by Year Graph for Microwave Heating of Food After 1992



The implication is that is if there is slightly growing activity, mostly with process patents, in the US the management team knows others view this market as expanding as well. This is especially true if there is a corresponding pattern in foreign filings. Competition should be based on Brand and pricing versus technology. If there is a surge of activity by someone else, an investigation should be done to ensure that management's expansion will not be interrupted by a breakthrough technology switch-over.

FIG. 114

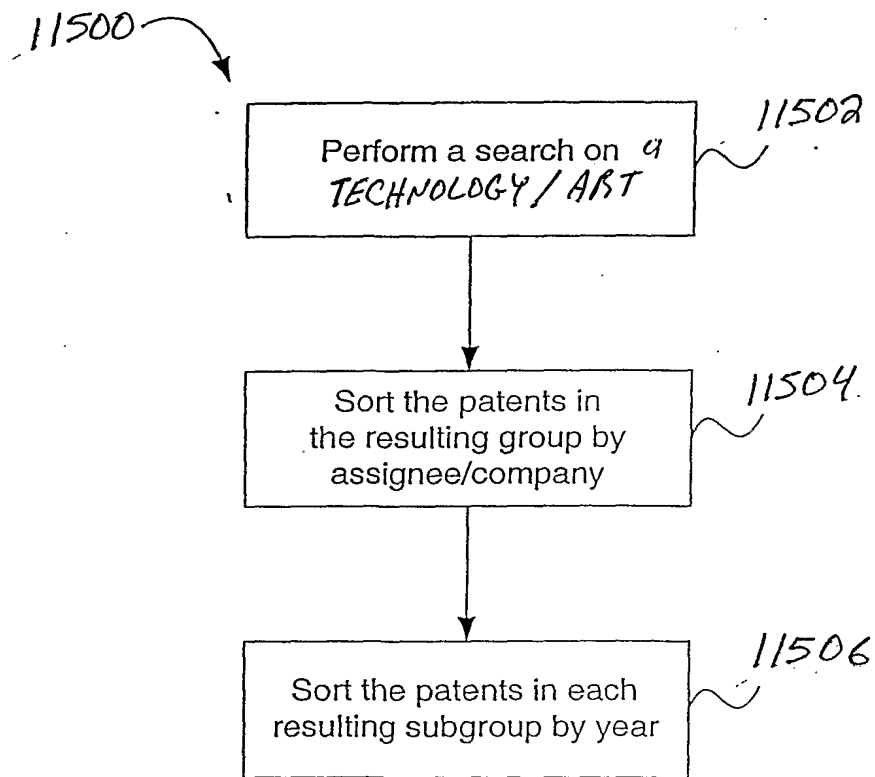
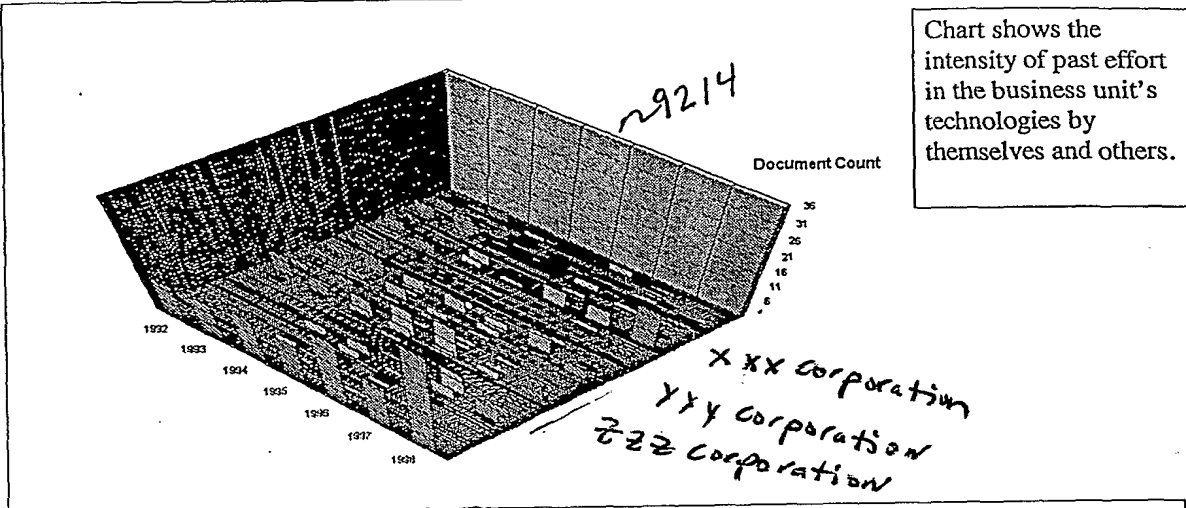


FIG. 115

Tool #26 Mature Business Patent Activity by Company Chart

This is created for the last ten years for each technology area of the company's patents. It is a standard Patent Count by Assignee report of the Aureka system.

Assignee - Patent Count by Year Graph for Microwave Heating of Food After 1992



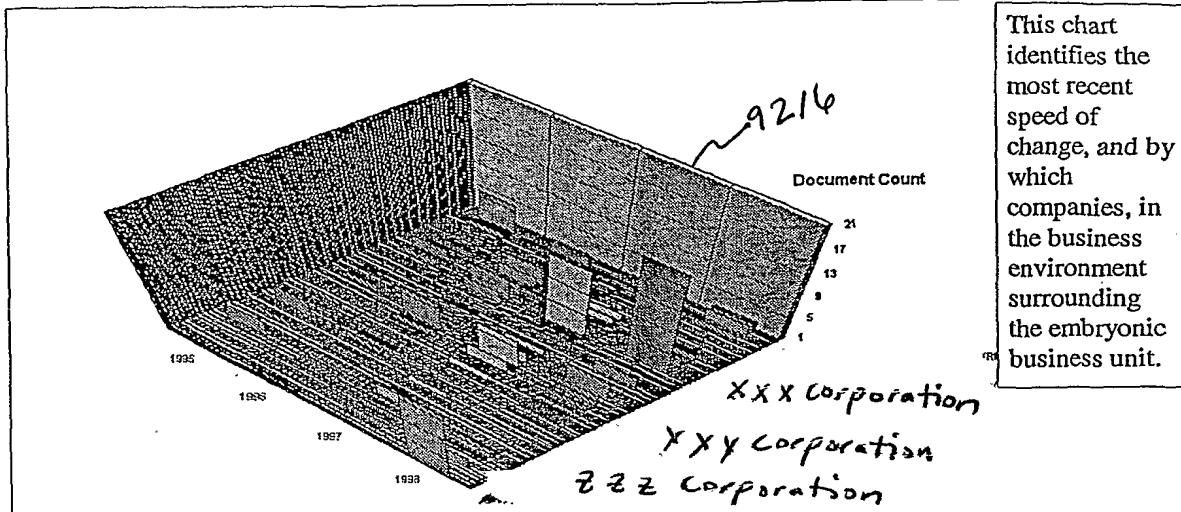
The implication is that is if there is waning activity, the management team knows others view this market as mature as well. If there is a surge of activity by someone else, an investigation should be done to ensure that the cash flow will not be interrupted by a late technology switch-over.

FIG. 116

Tool #3 Embryonic Business Recent Patent Applications Chart

This is created for the last ten years for each technology area of the company's patents. It is a standard Patent Application Count report of the Aureka system.

Assignee - Patent Application Count by Year Graph for Microwave Heating of Food Applications after 1995



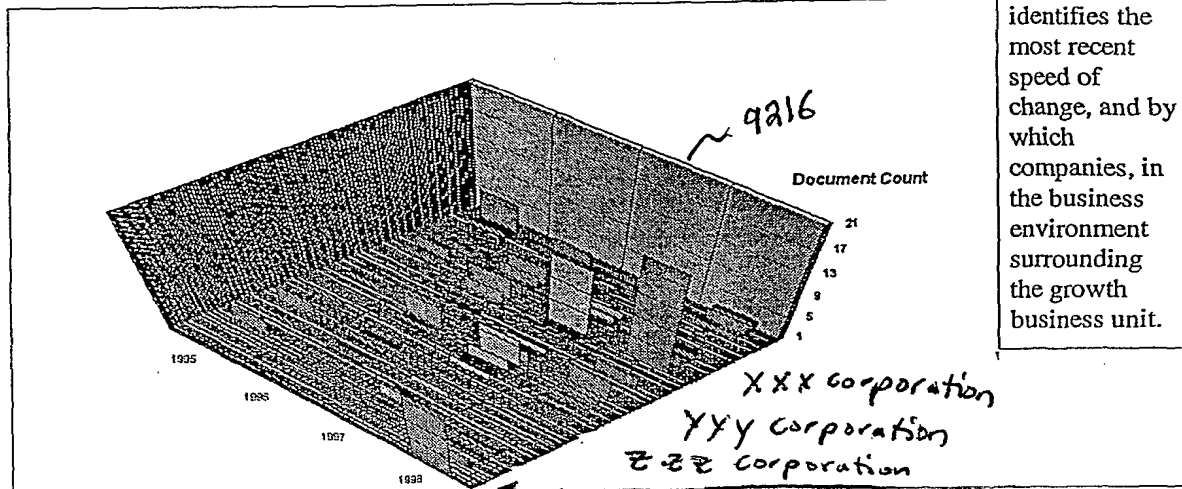
The implication is that the business unit general management knows which other companies are most active in the last several years in the same technology and business as themselves. They can then look into acquisition, merger, competitive, or complimentor strategies and select the most appropriate to pursue.

FIG. 117

Tool #10 Growth Business Recent Patent Applications Chart

This is created for the last four years for each technology area of the company's patents. The search is limited to European Applications. It is a standard Patent Application Count by Assignee report of the Aureka system.

Assignee - Patent Application Count by Year Graph for Microwave Heating of Food Applications after 1995



This chart identifies the most recent speed of change, and by which companies, in the business environment surrounding the growth business unit.

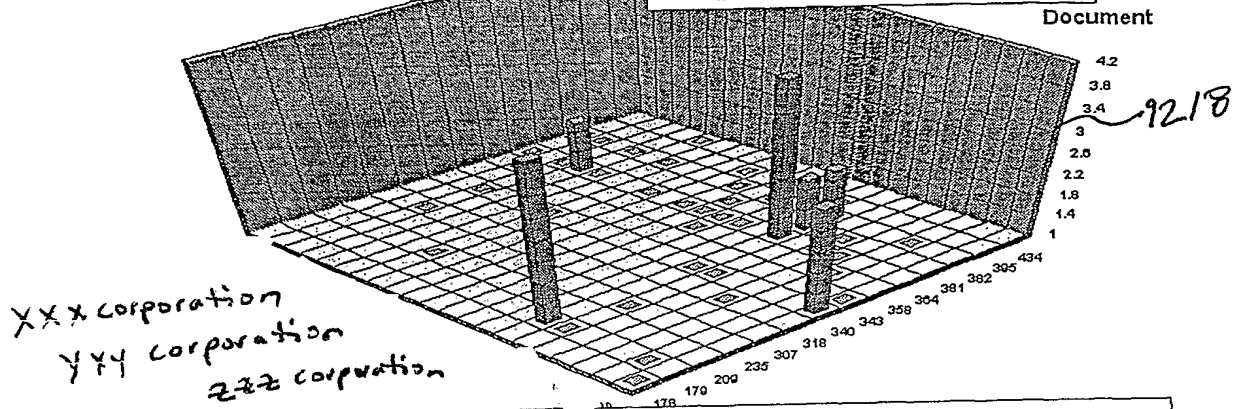
The implication is that the business unit general management knows which other companies are most active in the last several years in the same technology and business as themselves. They can then look into acquisition, merger, or competitive strategies and select the most appropriate to pursue.

FIG. 118

Tool#35 Technology by company map

This report is run in Aureka Reports. It is the Patent Classification by Assignee Report.

The graphs shows which patent classifications (technical areas) have been pursued by what companies



Identifies for the management team if there is a single company, a few companies, or many companies that are competing in the same areas of technology as the company. This pattern impacts the way in which products are marketed and sold. For technology not needed by the company, it identifies licensing candidates for management.

FIG. 119

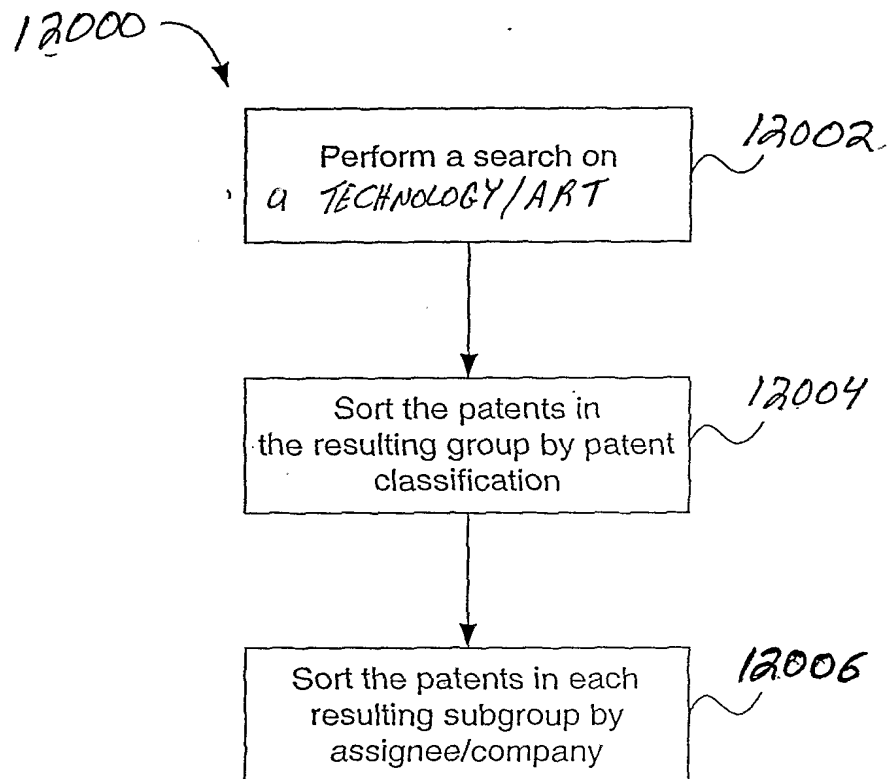
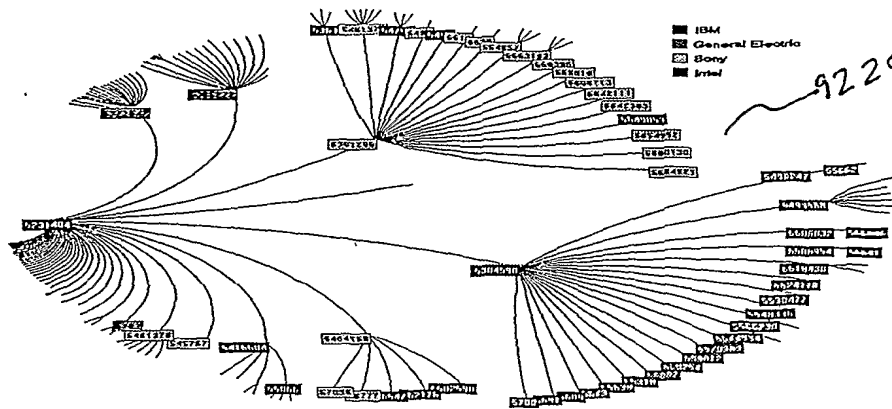


FIG. 120

Tool#36 Patent Citation Trees

This is created by running the citation frequency report for each patent class (technology area) of the company, then taking the most highly cited patent and running the forward citation analysis on it



This citation tree shows how unique, mature, expansive, and inner-related the technology is that stems from the patent being evaluated. When dates are put in the nodes it also shows the management team how fast moving the various branches of the tree are growing.

The management team can see at a glance if other companies are focused in similar areas of technology. The rate of patent growth should be fastest and strongest in the technologies with the highest profitability, best product features, and lowest costs. This pattern guides allocation of resources to the areas of highest return.

FIG 121

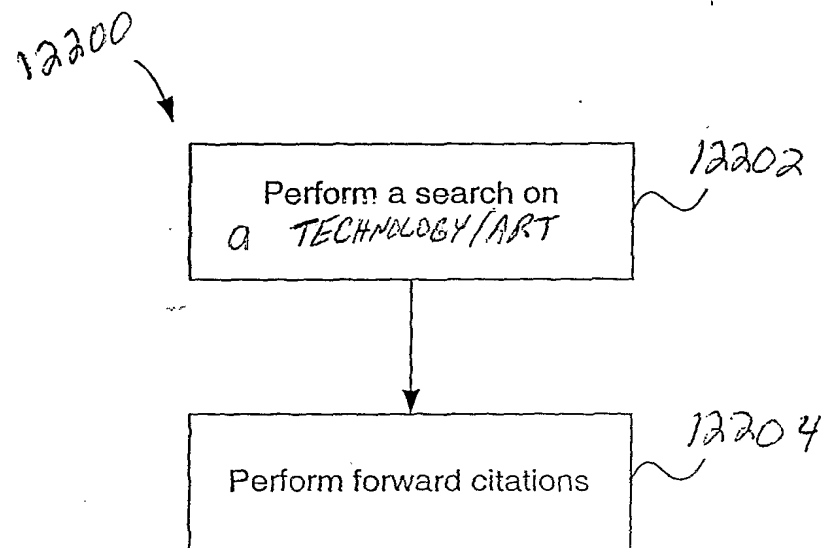


FIG. 122

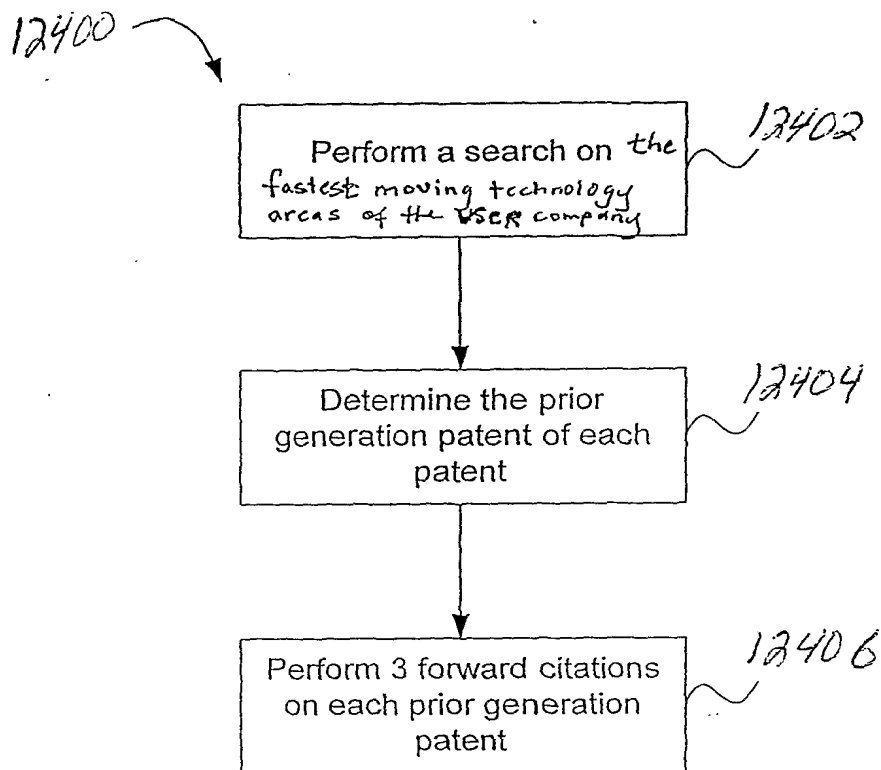
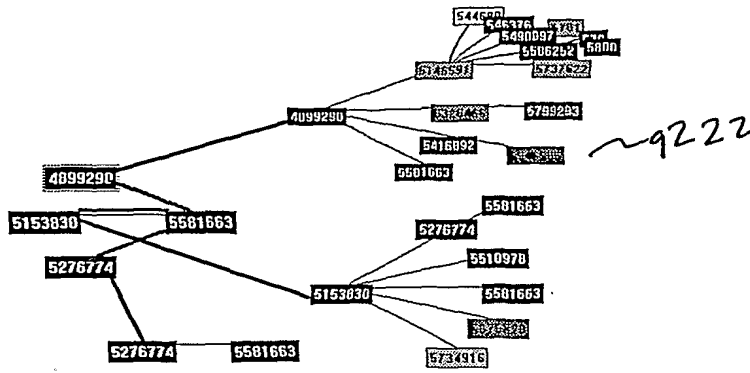


FIG. 124

Tool #19 Expanding Business Nested Citation Tree

For the business unit's fastest moving technology areas, patents in these areas are analyzed for technology expansion. Maps are created for countries wherein market and technology development is expected to be most rapid. The map is created by going one citation back, then three forward using the Aureka system. The results are cut and pasted into a PowerPoint slide for visualization.



The citation root-tree shows on which companies the business unit's competitive intelligence should do a preliminary investigation for possible future marketplace conflicts in various foreign countries, and also for potential infringing products and services.

Implication is that the management team knows early on technical and market areas which are being explored by others so they can change their technical and market strategies accordingly.

F ± 6. 126

Tool #5 Embryonic Business Product/Patent/Revenue Table

This is created by integrating the financial information from the business unit's books, with its manufacturing tracking system, and the patent to product information into a unified report. This may be done easily today with an SAP and Aureka integrated report.

Patent Number	Title	Issued	Expires	Assignee	Part Number	Revenue	Part Number	31042
4089017	Automatic photostudio	5/9/78	5/9/95	Polaroid Corporation	5351	\$76,312		
4258119	Novel xanthene compounds and photographic pro	3/24/81	3/24/98	Polaroid Corporation	5351	\$74,003		
4288153	Automatic strobe camera	9/8/81	9/8/98	Polaroid Corporation	5351	\$76,374		
4345017	Photographic products and processes with a pH se	8/17/82	8/17/99	Polaroid Corporation	5351	\$73,938		
EP 0 672 267 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	1/15/97	9/13/14	Polaroid Corporation	5351	\$75,946		
4201587	Graft copolymers as diffusion control layers in phc	5/6/80	5/6/97	Polaroid Corporation	14471	\$0		
4268142	Camera employing web for film ejection and proce	5/19/81	5/19/98	Polaroid Corporation	14471	\$0		
4566771	Photographic film assemblage	1/28/86	1/28/03	Polaroid Corporation	14471	\$0		
4972218	Photographic film assemblage	11/20/90	11/20/07	Polaroid Corporation	14471	\$0		
3705540	ELECTRONIC FLASH UNIT	12/12/72	12/12/89	Polaroid Corporation	19082	\$0		
3793022	DIFFUSION TRANSFER FILMS WITH ANTI-REF	2/19/74	2/19/91	Polaroid Corporation	19082	\$0		
3816123	PHOTOGRAPHIC PROCESSES AND PRODUCT	6/11/74	6/11/91	Polaroid Corporation	19082	\$0		
4025682	Photographic products	5/24/77	5/24/94	Polaroid Corporation	19082	\$0		
4052729	Camera with movable film drive and optical unit	10/4/77	10/4/94	Polaroid Corporation	19082	\$0		
4162829	Photographic film drive system employing inertia t	7/31/79	7/31/96	Polaroid Corporation	19082	\$0		
4267254	Photographic process	5/12/81	5/12/98	Polaroid Corporation	19082	\$0		
EP 0 340 676 A3	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	8/8/90		Polaroid Corporation	19082	\$0		
EP 0 340 676 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	11/9/94	4/28/09	Polaroid Corporation	19082	\$0		
3872486	PHOTOGRAPHIC APPARATUS EMPLOYING VA	3/18/75	3/18/92	Polaroid Corporation	31042	\$67,106		
3967292	Film assembly including a hermetically sealed bat	6/29/76	6/29/93	Polaroid Corporation	31042	\$67,261		
4390613	Diffusion transfer photographic system utilizing su	6/28/83	6/28/00	Polaroid Corporation	31042	\$68,379		
4774535	Instant type camera with manually operable mean	9/27/88	9/27/05	Polaroid Corporation	31042	\$68,457		
4891298	Photographic products and processes	1/2/90	1/2/07	Polaroid Corporation	31042	\$67,935		
4214822	Multipurpose film cassette having one-piece rotati	7/29/80	7/29/97	Polaroid Corporation	38324	\$26,331		
4226515	Photographic camera	10/7/80	10/7/97	Polaroid Corporation	38324	\$28,399		
4668062	Apparatus for precluding rotational movement of e	5/26/87	5/26/04	Polaroid Corporation	38324	\$29,003		
4688912	Photographic apparatus having a film advancing a	8/25/87	8/25/04	Polaroid Corporation	38324	\$29,118		
5571656	Multicolor diffusion transfer photographic film elen	11/5/96	2/9/16	Polaroid Corporation	38324	\$26,425		
3868709	PHOTOGRAPHIC APPARATUS WITH FILM REC	2/25/75	2/25/92	Polaroid Corporation	51723	\$39,948		
4092167	Photographic film unit with taps on binding elemen	5/30/78	5/30/95	Polaroid Corporation	51723	\$39,993		
4134655	Film unit deflection system for self developing can	1/16/79	1/16/96	Polaroid Corporation	51723	\$41,343		

This chart shows for each patent how much of the business unit's sales revenue is being covered.

The management team can see at a glance which patents are protecting revenue streams and which are not. Those not protecting revenue are subject to a decision to licensing out, donation, or abandonment.

FIG. 127

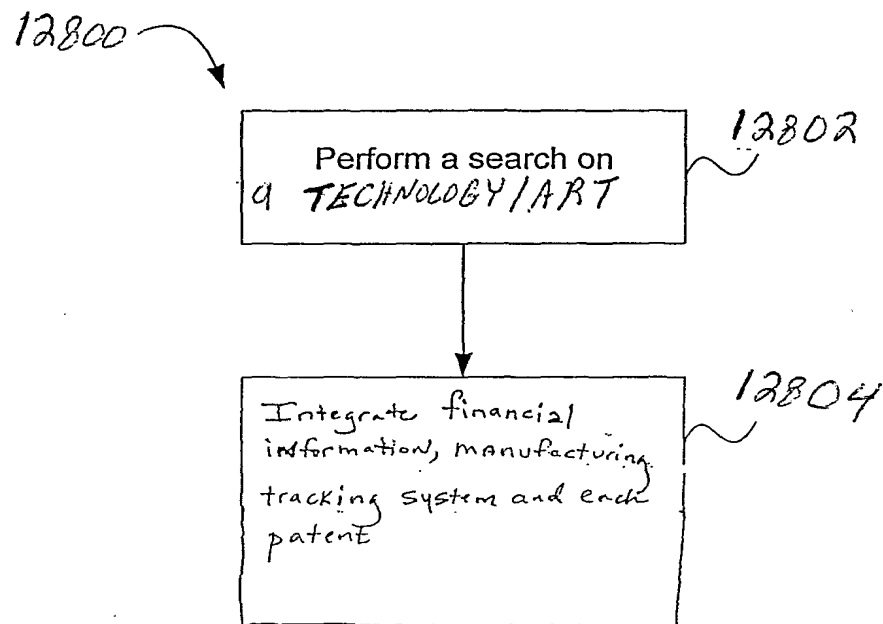


FIG. 128

Tool #12 Growth Business Product/Patent/Revenue Table

This is created by integrating the financial information from the business unit's books, its manufacturing tracking system, and the patent to product information all into a unified report. This may be done easily today with an SAP and Aureka integrated report.

Patent Number	Title	Issued	Expires	Assignee	Part Number	Revenue	Part Number	31042
4089017	Automatic photostudio	5/9/78	5/9/95	Polaroid Corporation	5351	\$76,312		
4258119	Novel xanthene compounds and photographic pro	3/24/81	3/24/98	Polaroid Corporation	5351	\$74,003		
4288153	Automatic strobe camera	9/8/81	9/8/98	Polaroid Corporation	5351	\$76,374		
4345017	Photographic products and processes with a pH se	8/17/82	8/17/99	Polaroid Corporation	5351	\$73,938		
EP 0 672 267 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	1/15/87	9/13/14	Polaroid Corporation	5351	\$75,946		
4201587	Graft copolymers as diffusion control layers in phc	5/6/80	5/6/97	Polaroid Corporation	14471	\$0		
4268142	Camera employing web for film ejection and proce	5/19/81	5/19/98	Polaroid Corporation	14471	\$0		
4566771	Photographic film assemblage	1/28/86	1/28/03	Polaroid Corporation	14471	\$0		
4972218	Photographic film assemblage	11/20/80	11/20/07	Polaroid Corporation	14471	\$0		
3705540	ELECTRONIC FLASH UNIT	12/12/72	12/12/89	Polaroid Corporation	19082	\$0		
3793022	DIFFUSION TRANSFER FILMS WITH ANTI-REF	2/19/74	2/19/91	Polaroid Corporation	19082	\$0		
3816123	PHOTOGRAPHIC PROCESSES AND PRODUCT	6/11/74	6/11/91	Polaroid Corporation	19082	\$0		
4025682	Photographic products	5/24/77	5/24/94	Polaroid Corporation	19082	\$0		
4052729	Camera with movable film drive and optical unit	10/4/77	10/4/94	Polaroid Corporation	19082	\$0		
4162829	Photographic film drive system employing inertia	7/31/79	7/31/96	Polaroid Corporation	19082	\$0		
4267254	Photographic process	5/12/81	5/12/98	Polaroid Corporation	19082	\$0		
EP 0 340 676 A3	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	8/8/90		Polaroid Corporation	19082	\$0		
EP 0 340 676 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	11/9/94	4/28/09	Polaroid Corporation	19082	\$0		
3872486	PHOTOGRAPHIC APPARATUS EMPLOYING VA	3/18/75	3/18/92	Polaroid Corporation	31042	\$67,106		
3967292	Film assembly including a hermetically sealed bat	6/29/76	6/29/93	Polaroid Corporation	31042	\$67,261		
4390613	Diffusion transfer photographic system utilizing sul	6/28/83	6/28/00	Polaroid Corporation	31042	\$68,379		
4774535	Instant type camera with manually operable mean	9/27/88	9/27/05	Polaroid Corporation	31042	\$68,457		
4891298	Photographic products and processes	1/2/90	1/2/07	Polaroid Corporation	31042	\$67,935		
4214822	Multipurpose film cassette having one-piece rotati	7/29/80	7/29/97	Polaroid Corporation	38324	\$26,331		
4226515	Photographic camera	10/7/80	10/7/97	Polaroid Corporation	38324	\$28,399		
4668062	Apparatus for precluding rotational movement of a	5/26/87	5/26/04	Polaroid Corporation	38324	\$29,003		
4688912	Photographic apparatus having a film advancing a	8/25/87	8/25/04	Polaroid Corporation	38324	\$29,118		
5571656	Multicolor diffusion transfer photographic film elem	1/15/96	2/9/16	Polaroid Corporation	38324	\$26,425		
3868709	PHOTOGRAPHIC APPARATUS WITH FILM REC	2/25/75	2/25/92	Polaroid Corporation	51723	\$39,948		
4092167	Photographic film unit with taps on blinding elemen	5/30/78	5/30/95	Polaroid Corporation	51723	\$39,993		
4134655	Film unit deflection system for self developing can	1/16/79	1/16/96	Polaroid Corporation	51723	\$41,343		

This chart shows for each patent how much of the business unit's sales revenue is being covered.

The management team can see at a glance which patents are protecting revenue streams and which are not. Those not protecting revenue are subject to a decision to licensing out, donation, or abandonment. Those which are protecting revenue are sent to marketing and R&D for strengthening of the patent fence.

FIG. 129

#20 Expanding Business Product/Patent/Revenue Table

This is created by integrating the financial information from the business unit's books, its manufacturing tracking system, and the patent to product information all into a unified report by geography. This may be done easily today with an SAP and Aureka integrated report.

Patent Number	Title	Issued	Expires	Assignee	Part Number	Revenue	Part Number	31042
4069017	Automatic photostudio	5/9/78	5/9/95	Polaroid Corporation	5351	\$76,312		
4258119	Novel xanthene compounds and photographic pro	3/24/81	3/24/98	Polaroid Corporation	5351	\$74,003		
4288153	Automatic strobe camera	9/8/81	9/8/98	Polaroid Corporation	5351	\$76,374		
4345017	Photographic products and processes with a pH se	8/17/82	8/17/99	Polaroid Corporation	5351	\$73,938		
EP 0 672 267 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	1/15/87	9/13/14	Polaroid Corporation	5351	\$75,946		
4201587	Graft copolymers as diffusion control layers in phc	5/6/80	5/6/97	Polaroid Corporation	14471	\$0		
4268142	Camera employing web for film ejection and proce	5/19/81	5/19/98	Polaroid Corporation	14471	\$0		
4566771	Photographic film assemblage	1/28/86	1/28/03	Polaroid Corporation	14471	\$0		
4972218	Photographic film assemblage	11/20/90	11/20/07	Polaroid Corporation	14471	\$0		
3705540	ELECTRONIC FLASH UNIT	12/12/72	12/12/89	Polaroid Corporation	19062	\$0		
3793022	DIFFUSION TRANSFER FILMS WITH ANTI-REF	2/19/74	2/19/91	Polaroid Corporation	19062	\$0		
3816123	PHOTOGRAPHIC PROCESSES AND PRODUCT	6/11/74	6/11/91	Polaroid Corporation	19062	\$0		
4025682	Photographic products	5/24/77	5/24/94	Polaroid Corporation	19062	\$0		
4052729	Camera with movable film drive and optical unit	10/4/77	10/4/94	Polaroid Corporation	19062	\$0		
4162829	Photographic film drive system employing inertia	7/31/79	7/31/96	Polaroid Corporation	19062	\$0		
4267254	Photographic process	5/12/81	5/12/98	Polaroid Corporation	19062	\$0		
EP 0 340 676 A3	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	8/8/90		Polaroid Corporation	19062	\$0		
EP 0 340 676 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	11/9/94	4/28/09	Polaroid Corporation	19062	\$0		
3872486	PHOTOGRAPHIC APPARATUS EMPLOYING VA	3/18/75	3/18/92	Polaroid Corporation	31042	\$67,106		
3967292	Film assembly including a hermetically sealed bat	6/29/76	6/29/93	Polaroid Corporation	31042	\$67,261		
4390613	Diffusion transfer photographic system utilizing su	6/28/83	6/28/00	Polaroid Corporation	31042	\$68,379		
4774535	Instant type camera with manually operable mean	9/27/88	9/27/05	Polaroid Corporation	31042	\$68,457		
4891298	Photographic products and processes	1/2/90	1/2/07	Polaroid Corporation	31042	\$67,935		
4214822	Multipurpose film cassette having one-piece rotati	7/29/80	7/29/97	Polaroid Corporation	38324	\$26,331		
4226515	Photographic camera	10/7/80	10/7/97	Polaroid Corporation	38324	\$28,399		
4668062	Apparatus for precluding rotational movement of s	5/26/87	5/26/04	Polaroid Corporation	38324	\$29,003		
4688912	Photographic apparatus having a film advancing s	8/25/87	8/25/04	Polaroid Corporation	38324	\$29,118		
5571656	Multicolor diffusion transfer photographic film elem	1/15/96	2/9/16	Polaroid Corporation	38324	\$26,425		
3868709	PHOTOGRAPHIC APPARATUS WITH FILM REC	2/25/75	2/25/92	Polaroid Corporation	51723	\$39,948		
4092167	Photographic film unit with taps on binding elemen	5/30/78	5/30/95	Polaroid Corporation	51723	\$39,993		
4134655	Film unit deflection system for self developing car	1/16/79	1/16/96	Polaroid Corporation	51723	\$41,343		

This chart shows for each patent how much of the business unit's sales revenue is being covered by each country in which the unit operates.

The management team can see at a glance which patents are protecting revenue streams and which are not. Highly profitable products not protected in any particular country revenue are sent to marketing and R&D for strengthening of the patent fence. Patents covering marginally profitable or growing products are subject to a decision to licensing out, donation, or abandonment on a country by country basis.

FIG. 130

Tool #27 Mature Business Product/Patent/Revenue Table

This is created by integrating the financial information from the business unit's books, its manufacturing tracking system, and the patent to product information all into a unified report. This may be done easily today with an SAP and Aureka integrated report.

Patent Number	Title	Issued	Expires	Assignee	Part Number	Revenue	Part Number	31042
4089017	Automatic photostudio	5/9/78	5/9/95	Polaroid Corporation	5351	\$76,312		
4258119	Novel xanthene compounds and photographic pro	3/24/81	3/24/98	Polaroid Corporation	5351	\$74,003		
4288153	Automatic strobe camera	8/8/81	8/8/98	Polaroid Corporation	5351	\$76,374		
4345017	Photographic products and processes with a pH se	8/17/82	8/17/99	Polaroid Corporation	5351	\$73,938		
EP 0 672 267 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	1/15/97	9/13/14	Polaroid Corporation	5351	\$75,946		
4201587	Graft copolymers as diffusion control layers in phc	5/6/80	5/6/97	Polaroid Corporation	14471	\$0		
4268142	Camera employing web for film ejection and proce	5/19/81	5/19/98	Polaroid Corporation	14471	\$0		
4566771	Photographic film assemblage	1/28/86	1/28/03	Polaroid Corporation	14471	\$0		
4972218	Photographic film assemblage	11/20/90	11/20/07	Polaroid Corporation	14471	\$0		
3705540	ELECTRONIC FLASH UNIT	12/12/72	12/12/89	Polaroid Corporation	19082	\$0		
3793022	DIFFUSION TRANSFER FILMS WITH ANTI-REF	2/19/74	2/19/91	Polaroid Corporation	19082	\$0		
3816123	PHOTOGRAPHIC PROCESSES AND PRODUCT	6/11/74	6/11/91	Polaroid Corporation	19082	\$0		
4025682	Photographic products	5/24/77	5/24/94	Polaroid Corporation	19082	\$0		
4052729	Camera with movable film drive and optical unit	10/4/77	10/4/94	Polaroid Corporation	19082	\$0		
4162829	Photographic film drive system employing inertia	7/31/79	7/31/96	Polaroid Corporation	19082	\$0		
4267254	Photographic process	5/12/81	5/12/98	Polaroid Corporation	19082	\$0		
EP 0 340 676 A3	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	8/8/90		Polaroid Corporation	19082	\$0		
EP 0 340 676 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	11/9/94	4/28/09	Polaroid Corporation	19082	\$0		
3872486	PHOTOGRAPHIC APPARATUS EMPLOYING VA	3/18/75	3/18/92	Polaroid Corporation	31042	\$67,106		
3967292	Film assembly including a hemetically sealed bat	6/29/76	6/29/93	Polaroid Corporation	31042	\$67,261		
4390613	Diffusion transfer photographic system utilizing su	6/28/83	6/28/00	Polaroid Corporation	31042	\$68,379		
4774535	Instant type camera with manually operable mean	9/27/88	9/27/05	Polaroid Corporation	31042	\$68,457		
4891298	Photographic products and processes	1/2/90	1/2/07	Polaroid Corporation	31042	\$67,935		
4214822	Multipurpose film cassette having one-piece rotati	7/29/80	7/29/97	Polaroid Corporation	38324	\$26,331		
4226515	Photographic camera	10/7/80	10/7/97	Polaroid Corporation	38324	\$28,399		
4668062	Apparatus for precluding rotational movement of	5/26/87	5/26/04	Polaroid Corporation	38324	\$29,003		
4668912	Photographic apparatus having a film advancing a	8/25/87	8/25/04	Polaroid Corporation	38324	\$29,118		
5571656	Multicolor diffusion transfer photographic film ele	11/5/96	2/9/16	Polaroid Corporation	38324	\$26,425		
3868709	PHOTOGRAPHIC APPARATUS WITH FILM REC	2/25/75	2/25/92	Polaroid Corporation	51723	\$39,948		
4092167	Photographic film unit with taps on blinding elem	5/30/78	5/30/95	Polaroid Corporation	51723	\$39,993		
4134655	Film unit deflection system for self developing can	1/16/79	1/16/96	Polaroid Corporation	51723	\$41,343		

This chart shows for each patent how much of the business unit's sales revenue is being covered.

The management team can see at a glance which patents are protecting revenue streams and which are not. Those not protecting revenue are subject to a decision to licensing out, donation, or abandonment.

FIG. 131

Tool#37 Company's Product/Patent/Revenue Table

This is created by integrating the financial information from the company's books, its manufacturing tracking system, and the patent to product information all into a unified report. This may be done easily today with an SAP and Aureka integrated report.

Patent Number	Title	Issued	Expires	Assignee	Part Number	Revenue	Part Number	31042
4089017	Automatic photostudio	5/9/78	5/9/95	Polaroid Corporation	5351	\$76,312		
4258119	Novel xanthene compounds and photographic pro	3/24/81	3/24/98	Polaroid Corporation	5351	\$74,003		
4288153	Automatic strobe camera	9/8/81	9/8/98	Polaroid Corporation	5351	\$76,374		
4345017	Photographic products and processes with a pH se	8/17/82	8/17/99	Polaroid Corporation	5351	\$73,938		
EP 0 672 267 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	1/15/97	9/13/14	Polaroid Corporation	5351	\$75,946		
4201587	Graft copolymers as diffusion control layers in phc	5/6/80	5/6/97	Polaroid Corporation	14471	\$0		
4268142	Camera employing web for film ejection and proce	5/19/81	5/19/98	Polaroid Corporation	14471	\$0		
4566771	Photographic film assemblage	1/28/86	1/28/03	Polaroid Corporation	14471	\$0		
4972218	Photographic film assemblage	11/20/90	11/20/07	Polaroid Corporation	14471	\$0		
3705540	ELECTRONIC FLASH UNIT	12/12/72	12/12/89	Polaroid Corporation	19082	\$0		
3793022	DIFFUSION TRANSFER FILMS WITH ANTI-REF	2/19/74	2/19/91	Polaroid Corporation	19082	\$0		
3816123	PHOTOGRAPHIC PROCESSES AND PRODUCT	6/11/74	6/11/91	Polaroid Corporation	19082	\$0		
4025682	Photographic products	5/24/77	5/24/94	Polaroid Corporation	19082	\$0		
4052729	Camera with movable film drive and optical unit	10/4/77	10/4/94	Polaroid Corporation	19082	\$0		
4162829	Photographic film drive system employing inertia	7/31/79	7/31/96	Polaroid Corporation	19082	\$0		
4267254	Photographic process	5/12/81	5/12/98	Polaroid Corporation	19082	\$0		
EP 0 340 676 A3	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	8/9/90		Polaroid Corporation	19082	\$0		
EP 0 340 676 B1	IMAGE-RECEIVING ELEMENT FOR DIFFUSION	11/9/94	4/28/09	Polaroid Corporation	19082	\$0		
3872486	PHOTOGRAPHIC APPARATUS EMPLOYING V	3/18/75	3/18/92	Polaroid Corporation	31042	\$67,106		
3967292	Film assembly including a hermetically sealed bat	6/29/76	6/29/93	Polaroid Corporation	31042	\$67,261		
4390613	Diffusion transfer photographic system utilizing su	6/28/83	6/28/00	Polaroid Corporation	31042	\$68,379		
4774535	Instant type camera with manually operable mean	9/27/88	9/27/05	Polaroid Corporation	31042	\$68,457		
4891298	Photographic products and processes	1/2/90	1/2/07	Polaroid Corporation	31042	\$67,935		
4214822	Multipurpose film cassette having one-piece rotati	7/29/80	7/29/97	Polaroid Corporation	38324	\$26,331		
4226515	Photographic camera	10/7/80	10/7/97	Polaroid Corporation	38324	\$28,399		
4668062	Apparatus for precluding rotational movement of	5/26/87	5/26/04	Polaroid Corporation	38324	\$29,003		
4688912	Photographic apparatus having a film advancing a	8/25/87	8/25/04	Polaroid Corporation	38324	\$29,118		
5571656	Multicolor diffusion transfer photographic film elen	11/5/96	2/9/16	Polaroid Corporation	38324	\$26,425		
3868709	PHOTOGRAPHIC APPARATUS WITH FILM REC	2/25/75	2/25/92	Polaroid Corporation	51723	\$39,948		
4092167	Photographic film unit with taps on binding elem	5/30/78	5/30/95	Polaroid Corporation	51723	\$39,993		
4134655	Film unit deflection system for self developing can	1/16/79	1/16/96	Polaroid Corporation	51723	\$41,343		

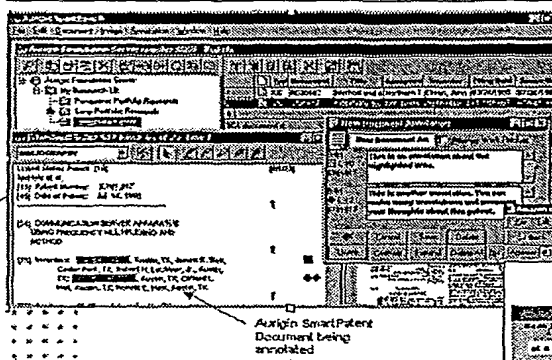
This chart shows for each patent how much of the company's sales revenue is being covered.

The management team can see at a glance which patents are protecting revenue streams and which are not. Those not protecting revenue are subject to a decision to licensing out, donation, or abandonment.

FIG. 132

Tool #6 Embryonic Business Document Annotations

During the early life of the business unit's patents individual analysts and teams real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka.



These annotations document how each patent being added to the portfolio may be related to technology developments, geographic decisions to file in foreign countries to support later stage business expansion, new products, and marketing information. It is also used to document infringing activities of others.

This indexed knowledge is used to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent preparation, filing, licensing, and litigation.

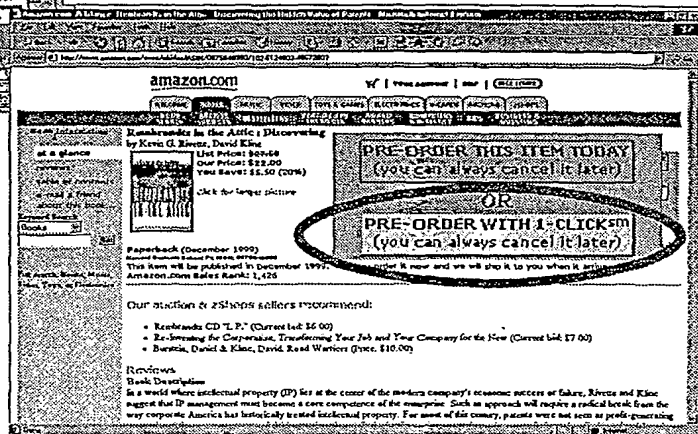


FIG. 133

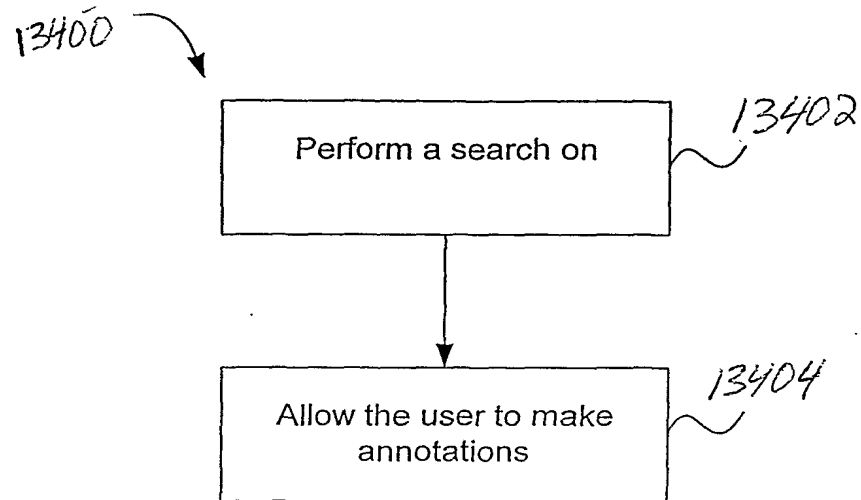
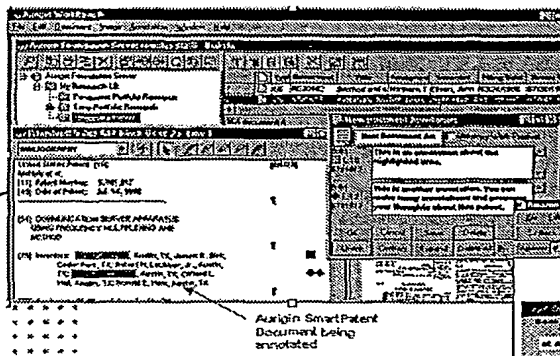


FIG. 134

Tool #13 Growth Business Document Annotations

During the life of the business unit's patents individual analysts and teams real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka.



These annotations document how each patent being added to the portfolio may be related to past technology developments, geographic decisions to file in foreign countries to support later stage business expansion, products, data sheets, and other marketing information. It is also used to document infringing activities of others.

This indexed knowledge is used to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent filing, licensing, and litigation.

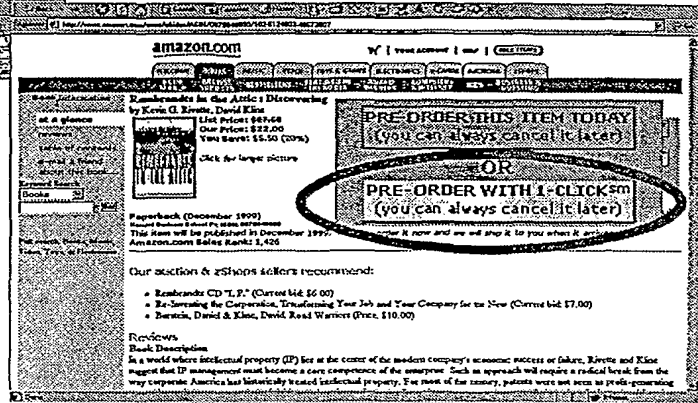
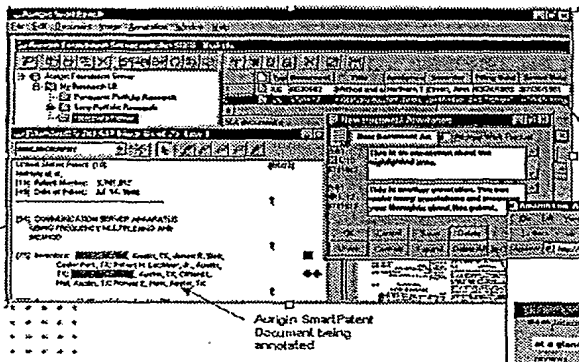


FIG. 135

Tool #21 Expanding Business Document Annotations

During the life of the business unit's patents individual analysts and teams real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka.

9226



These annotations document how each patent may be related to past technology developments, geographic decisions to file in foreign countries, products, data sheets, press releases, and other marketing and sales information. It is also used to document infringing activities of others.

Assign SmartPatent Document being annotated

This indexed knowledge is used to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent licensing, and litigation.

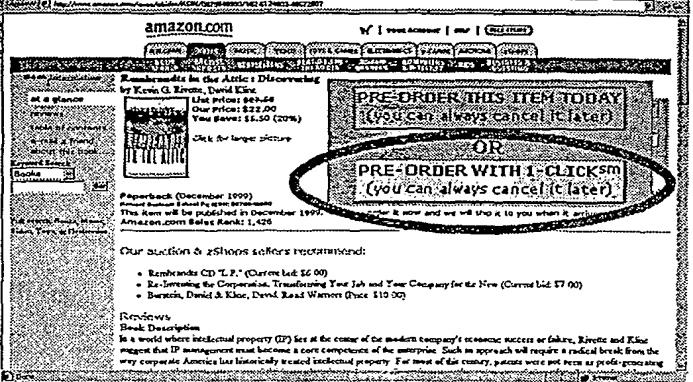


FIG. 136

Tool #28 Mature Business Document Annotations

During the life of the business unit's patents individual analysts and teams real-time annotate patents & corporate documents (company and outside information sources like the web) using the annotation window in Aureka.

These annotations document how each patent may be related to past technology developments, geographic decisions to file in foreign countries, products, data sheets, press releases, and other marketing and sales information.

92262

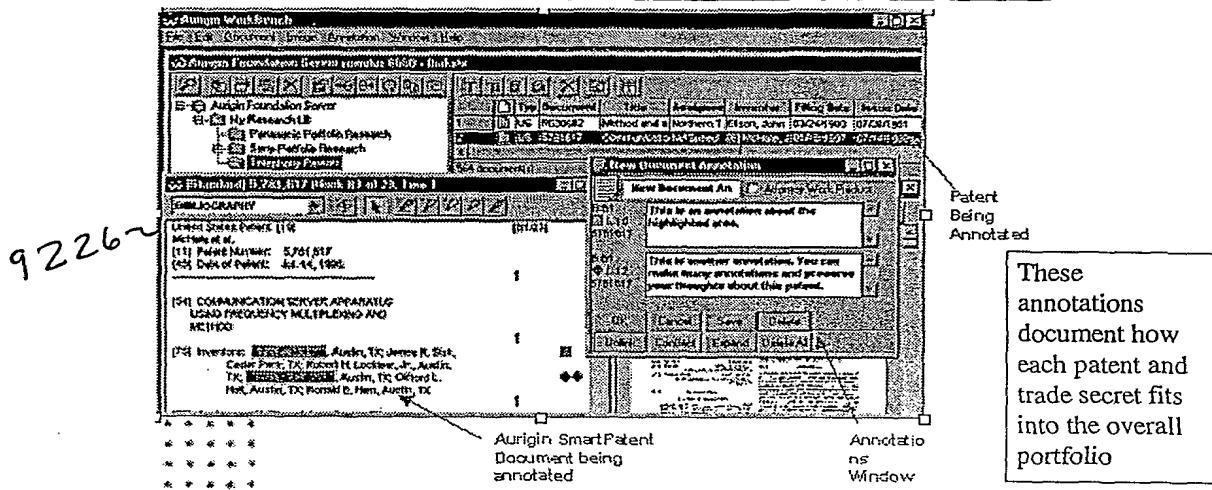
Assign SmartPatent Document being annotated

This indexed knowledge is used to expedite individual analysis activities, improve the efficiency of management team review meetings, as well as expedient patent licensing, and litigation.

FIG. 137

Tool#38 Document Annotations

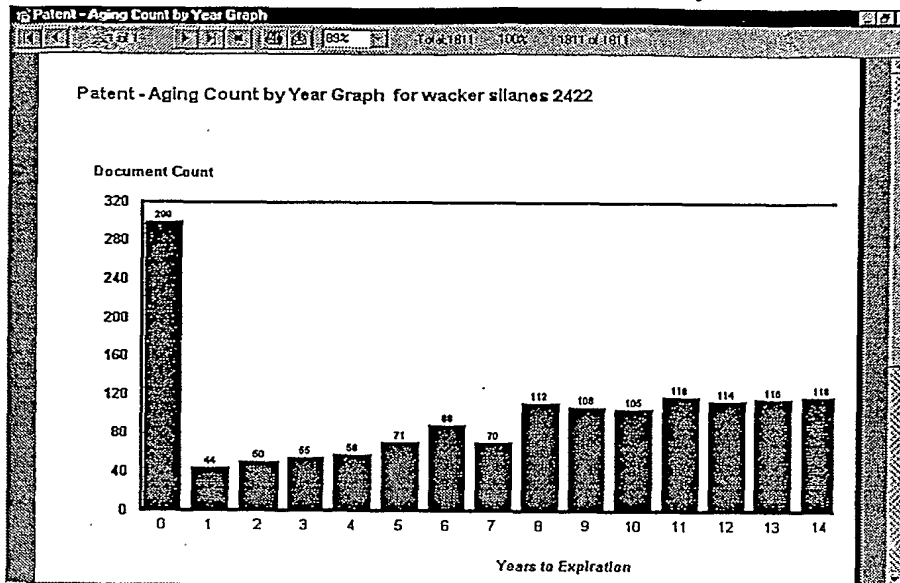
During the portfolio review meetings the business unit's management team can real-time annotate patents & corporate documents using the annotation window in Aureka



Pre-meeting recorded, indexed knowledge is used expedite patent portfolio review meetings

FIG. 138

Tool#7 Time Remaining on Embryonic Business' Patents



This is created for each technology area of the business unit's patents. It is a standard report of the Aureka system.

The chart shows the age of each of the business unit's patents.

The implication is that the business unit team can see which technologies have lots of life left in them and will protect the cash flow of the growth business for each product for years to come, and which are about to expire and potentially allow competitors to erode margins. Planning for these events, the general manager can decide which products and technologies to promote and which to dismiss. For an Embryonic business to succeed the patents should be young with lots of life left in them.

FIG. 139

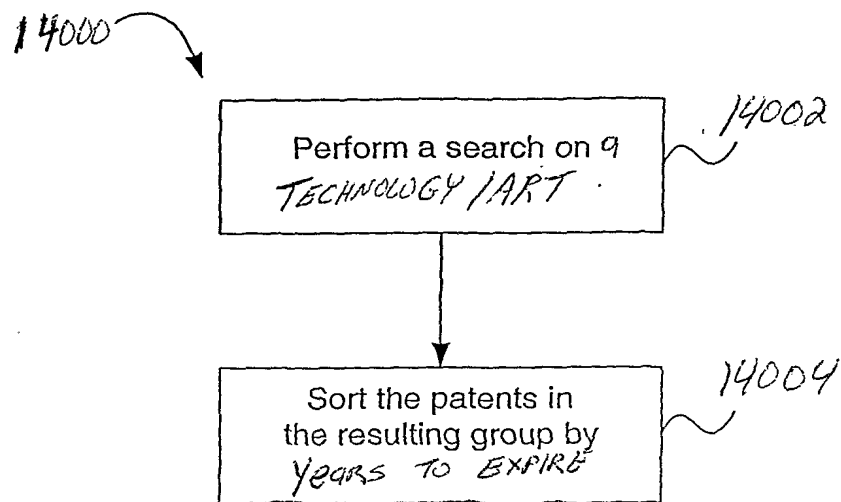
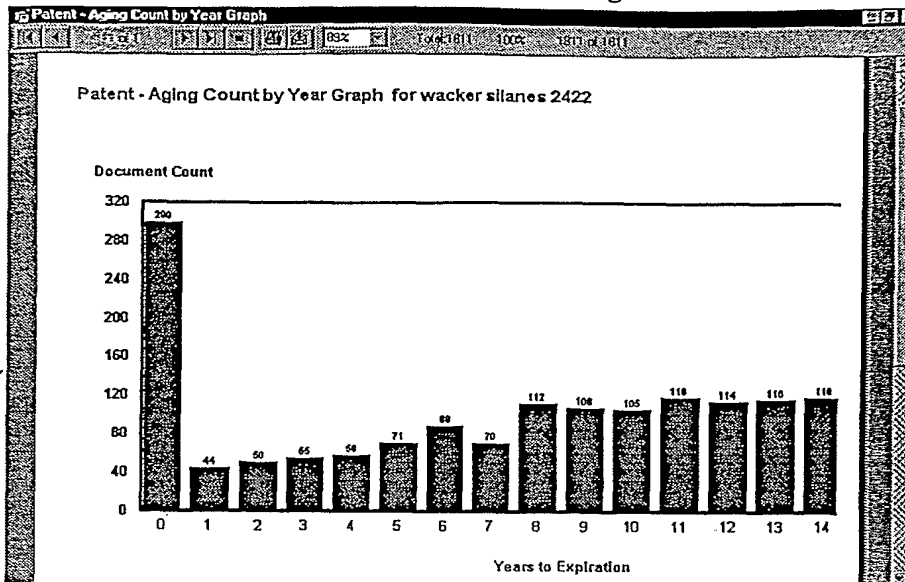


FIG. 140

Tool#14 Time Remaining on Growth Business' Patents



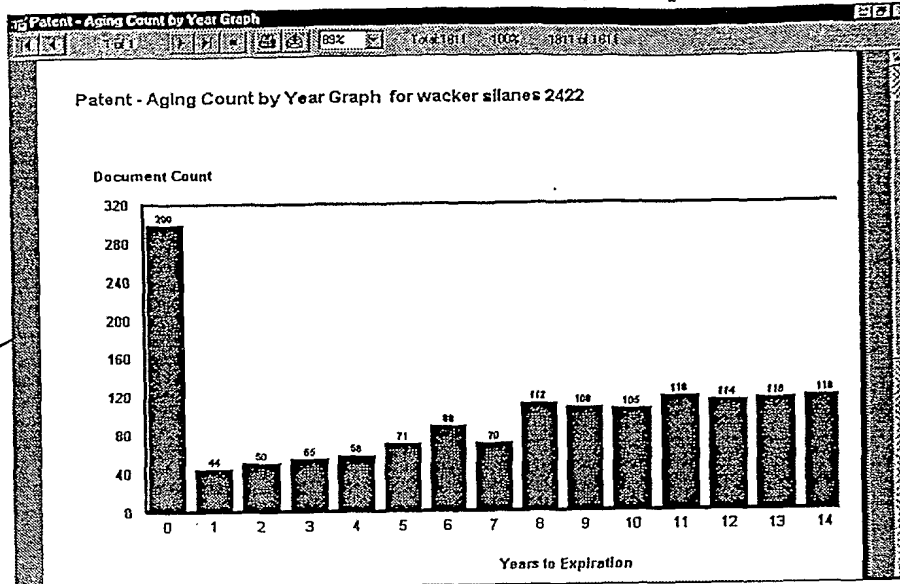
This is created for each technology area of the business unit's patents. It is a standard report of the Aureka system.

The chart shows the age of each of the business unit's patents.

The implication is that the business unit team can see which technologies have lots of life left in them and will protect the cash flow of the growth business for each product for years to come, and which are about to expire and potentially allow competitors to erode margins. Planning for these events, the general manager can decide which products and technologies to promote and which to dismiss.

FIG. 141

Tool#22 Time Remaining on Expanding Business' Patents



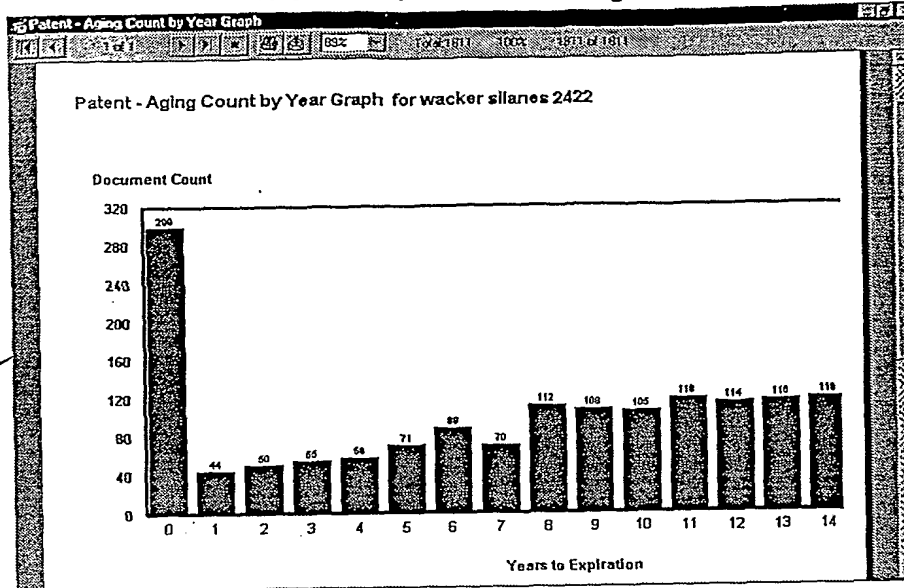
This is created for each technology area of the business unit's patents and for each country in which the business unit wishes to do business. It is a standard report of the Aureka system. For the foreign information the various national patents are entered as corporate documents in Aureka.

The chart shows the age of each of the business unit's patents.

The implication is that the business unit team can see which technologies have lots of life left in them and will protect the cash flow of the expanding business from each product and in each country, and which are about to expire and potentially allow competitors to erode margins, or prevent profitable market penetration in a foreign country. Planning for these events, the general manager can decide which market segments and which countries to enter for growth.

FIG. 142

Tool#29 Time Remaining on Mature Business' Patents



This is created for each technology area of the business unit's patents. It is a standard report of the Aureka system.

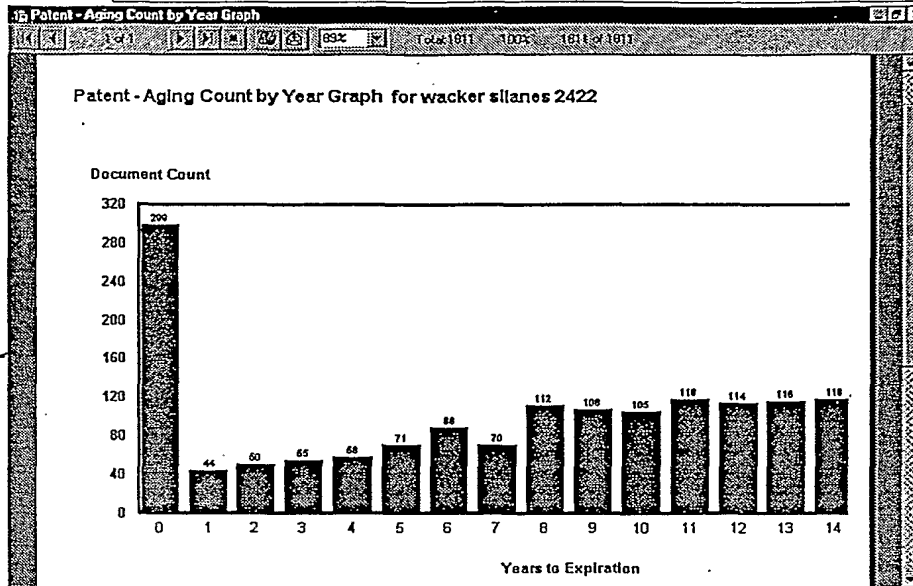
The chart shows the age of each of the business unit's patents.

The implication is that the business unit team can see which technologies have lots of life left in them and will continue to protect the cash flow of the mature business, and which are about to expire and potentially allow competitors to erode margins. Planning for these events, the general manager can decide whether to invest in incremental product or process technology, and/or brand building activities to sustain the cash cow.

FIG. 143

Tool#39 Time Remaining on Patent Portfolio

This is created for each technology area of the company's patents. It is a standard report of the Aureka system.



The chart shows the age of each of the company's patents.

The implication is that the portfolio team can see which Technologies are young and worthy of investment, and which are old wherein General Manager's must decide whether to re-invest in the business or run it as a cash cow.

FIG. 144

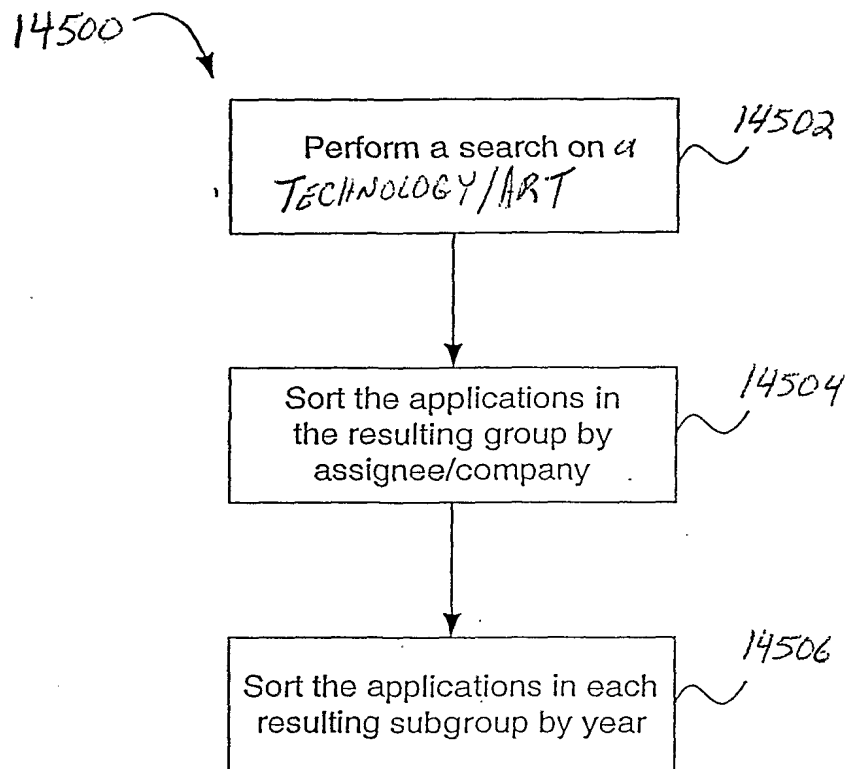


FIG. 145

**Flowchart of the Stages of the
Merger and Acquisition Process**

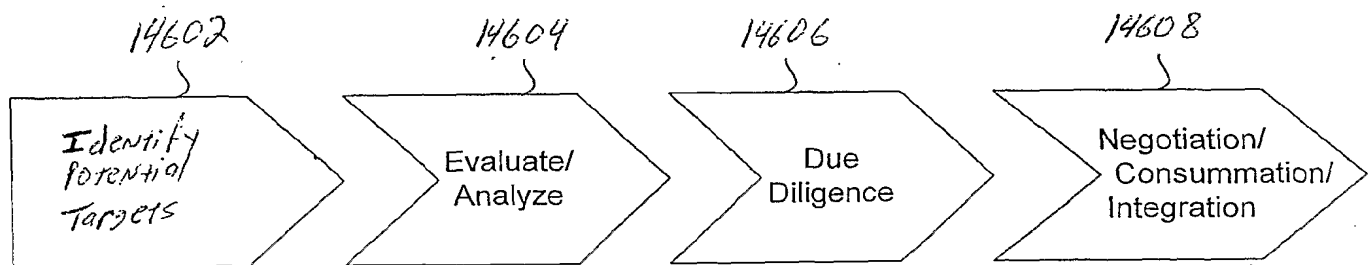


FIG. 146

Reference Guide of Specific Tools

14602 14604 14606 14608

			Merger & Acquisition Phases			
			Identify Targets	Evaluate, Analyze	Due Diligence	Negotiation
14702	HIGH LEVEL LANDSCAPE					
14704	Topographic Map	Overall view of related art, uses	1	1,2,3		2,3
14706	Technology Classification	Identifies technologies in company's patent portfolio	17	17		
14708	SIC Classification	Identifies market segments that can use the product/services		18		
14708	Radar Diagram	Identifies technology synergy of merger	26	26		
	CITATION HISTORY					
14710	Patent Citation Tree	View of which companies are blocking and/or can circumvent other's patents		8a,c	8a,c	8a,b,c
14712	Citation Root Tree	Prediction of related technology/markets under exploration		10b	10a,b	10a,b
14714	Citation Count Report	Identifies frequently cited patents having the most value in the portfolio		4	4	
14716	Citation Frequency Graph	Identifies companies affected by merger		5,9	5,9	
14718	Citation Frequency Report	Identifies which patents from which companies have most value		6,7	6,7	
	VELOCITY AND AGE DISTRIBUTION					
14720	Patent Count/year	Identifies intensity of development in portfolios		12a,b,13	12a,b,13	12a,13
14722	Application Count/year	Identifies level and rate of change in portfolios			14	14
14724	Patent aging graph	Identifies the number of years to patent expiration			15,16	15,16
	DETAIL LANDSCAPE					
14726	US Primary Class/Subclass	Determines highest patent count by primary class/subclass		19	19	
14728	International Patent Class	Determines highest patent count by international class		19a	19a	
14730	Assignee Patent Count Report by Primary Class/Subclass	Overall view of competitive landscape for both companies by class/subclass		20,23,24		20,23
14732	Patent Count Graph by number of patents	Overall view of competitive landscape for both companies by number of issued patents		24		
14734	Top Assignees Primary Class/Subclass by percent of Total	Overall view of competitive landscape for both companies by percent of total in class/subclass		22,25		
14736	Months to Issue - patents	Is all art at the negotiation table?			11	11
14738	Features Grouping	Are products/services' features covered?		31A	31	31,31A
14740	Document Annotation	Immediate, linked, searchable documentation of facts and ideas		32	32	32
	INVENTORS					
14742	Inventor Patent Count/Assignee	Are there JDA/ventures which will impact merger?				
14744	Inventor Patent Count Graph	Identifies inventors with most inventions in portfolio		27,28	27,28	27,28
14746	Inventor Data	Identifies average number of inventors per patent			29	29
					30	30

14701

LEGEND	
◆	Strategic Fit
\$	Reward
⚡	Risk
●	Capability

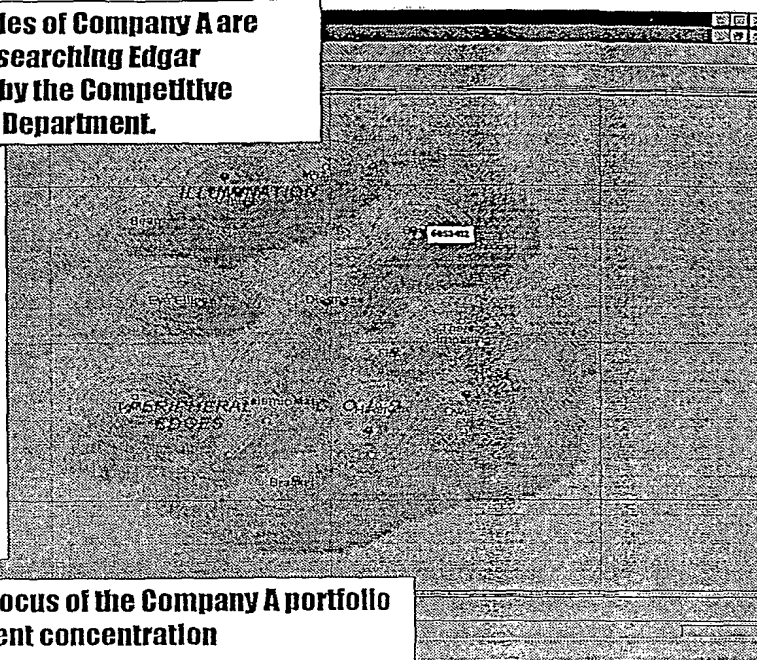
FIG. 147

#1 Topographic Map Company A Patents



All subsidiaries of Company A are provided by searching Edgar database or by the Competitive Intelligence Department.

Groups are created by assignee, Boolean and natural language searches on the products, uses and technologies covered in Company A's patent portfolio. Groups are created in Aureka based on US and EPB patents. These groups are exported to Cartla for mapping.



14702

Map shows dominance or area of focus of the Company A portfolio and the distinguishing area of patent concentration

F I G. 148

14900 →

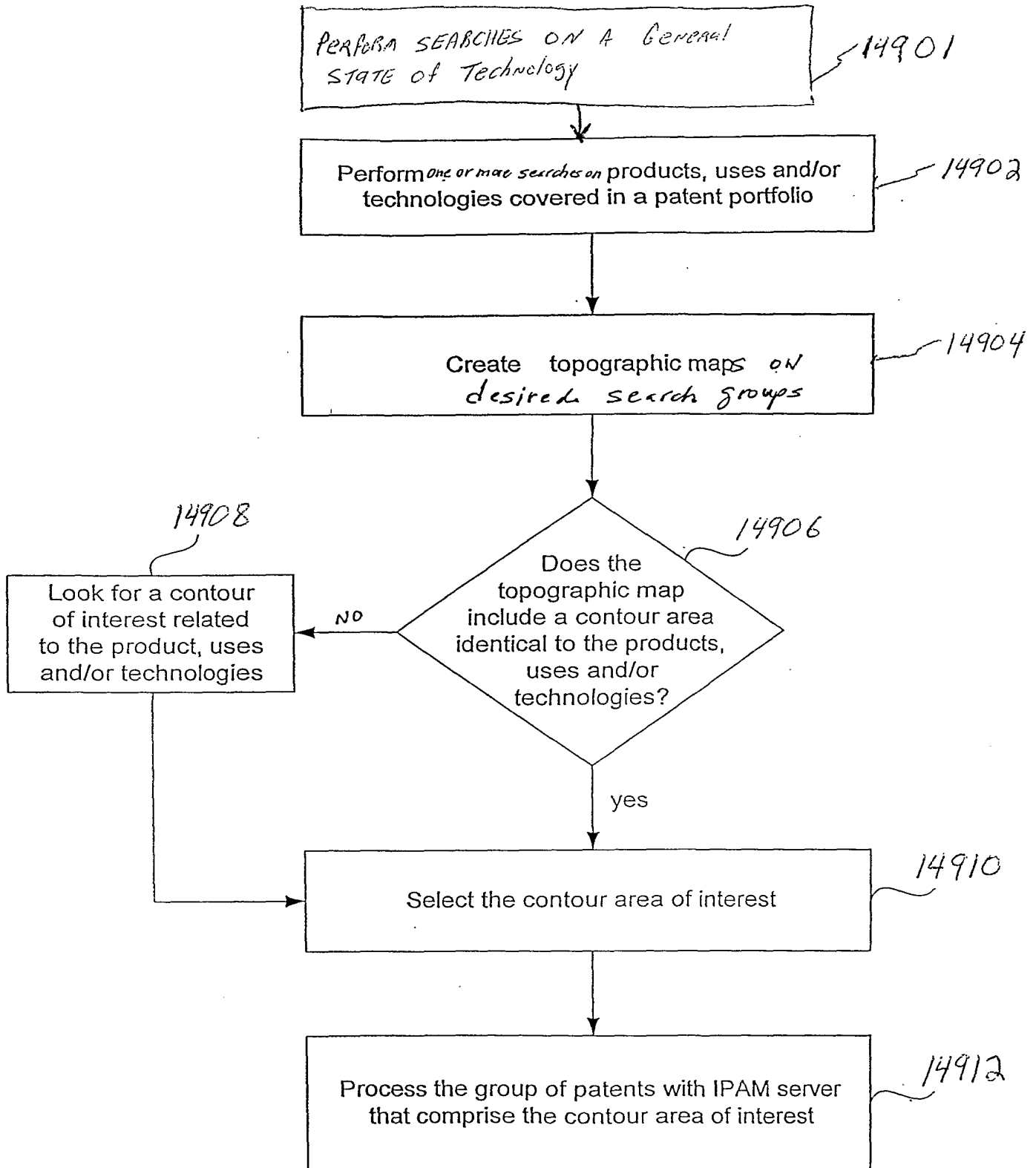


FIG 149

#2 Topographic Map Company B Patents

Created as explained in #1 for
Company B's patent portfolio.

All subsidiaries of Company B are
provided by searching Edgar
database or by the Competitive
Intelligence Department.

EP 0 836 563 A1

The nonazide propellant
produces enough heat
energy to subsequently
ignite the segregated
propellant grains (66) by
forced convection and/or
heat conduction. EP 0 836
563 A1 Bibli...

5461566

280/735 Primary

BRIDGE
TUBE
CORRELATION
DIODE

14702

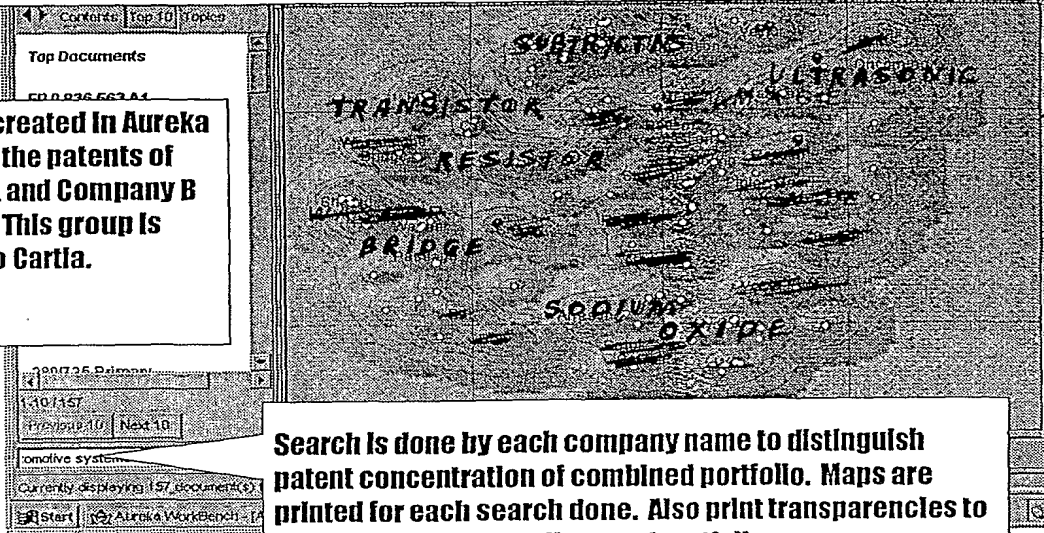
Map shows dominance of Company B portfolio and the distinguishing area of patent
concentration. It also shows the "white space" between various technologies and uses that
could be the basis for post-merger business development.

FIG. 150

#3 Topographic Map Company A & Company B Patents

Map shows concept relationship of each party's patents and distinguishes if the patents overlap or compliment each other. Determines if the merger will allow for growth in an existing or new area. This forms the basis for a favorable/ unfavorable recommendation during the evaluate/ analyze stage and moves the valuation up or down in the negotiation phase.

A group is created in Aureka combining the patents of Company A and Company B portfolios. This group is exported to Cartia.

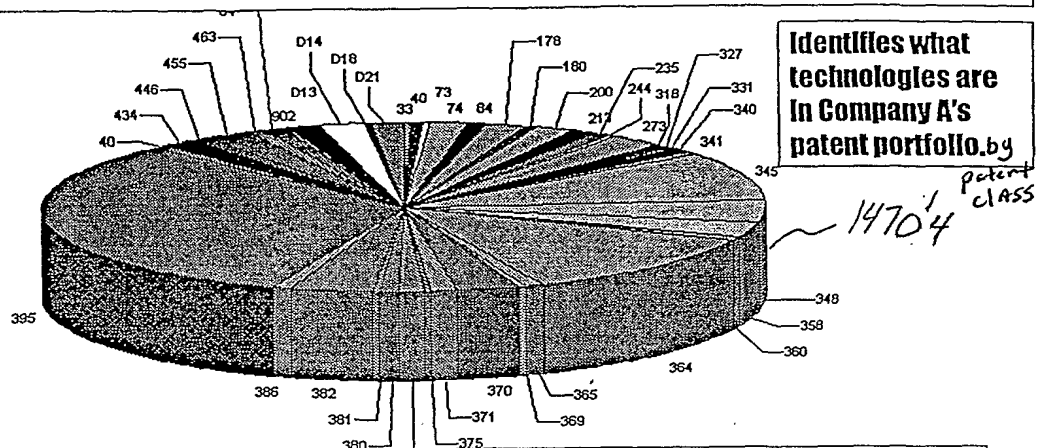


Search is done by each company name to distinguish patent concentration of combined portfolio. Maps are printed for each search done. Also print transparencies to show overlap or compliment of portfolios.

FIG. 151

#17 Technology Classification

This is created by searching Company A's patents, and then exporting the results to Excel and graphing using the graph wizard to create a listing graph of the patent classifications



This chart gives Company B a visual indication of Company A's core technologies, which are well covered and which sparse. Comparing this chart to the strategic intent of Company B it identifies technologies to have R&D build upon to make more robust, which to license out to create more value for the proposed merger.

FIG. 152

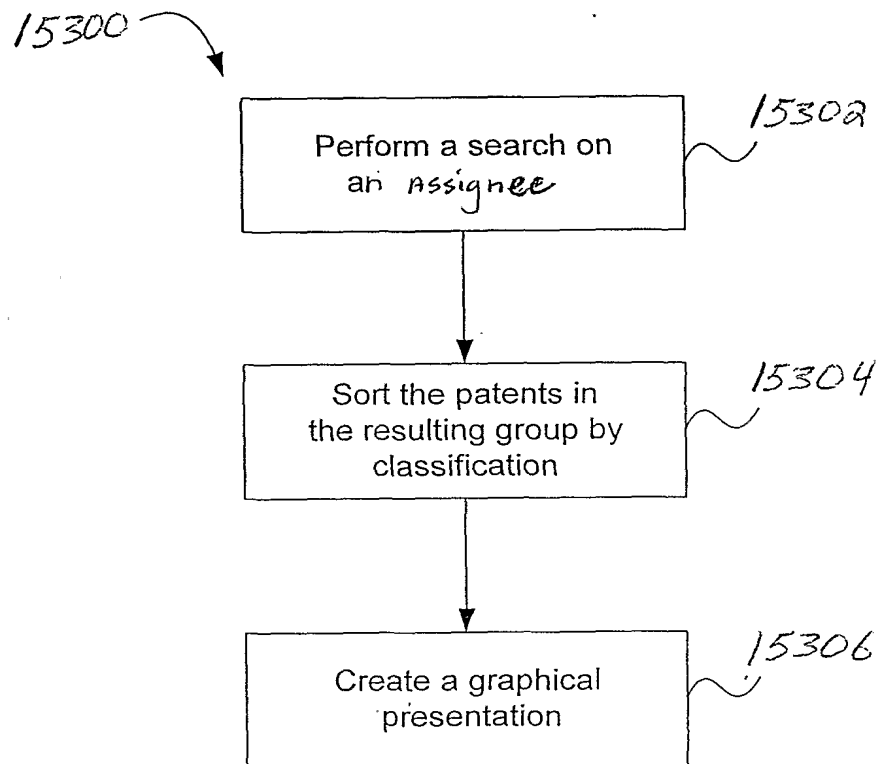
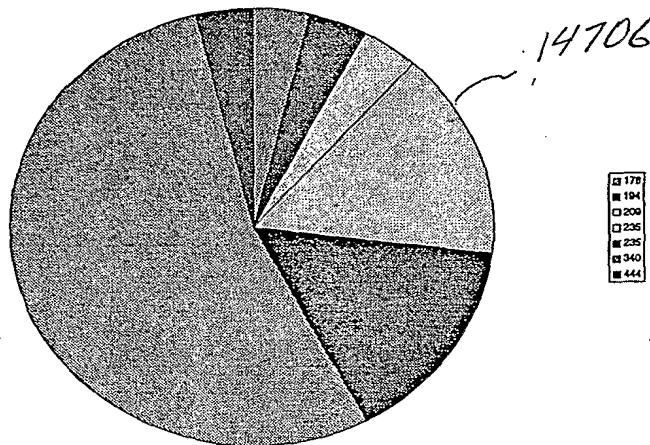


FIG. 153

#18 SIC Classification

This chart is created from the same excel spreadsheet as #17 except that the classifications are run through a look-up table from a source such as the department of commerce patent/SIC concordance. The resulting SIC codes are graphed using the chart wizard.



This chart shows what markets are using, or might be using, or interested in using, the Company A's patent portfolio

The Impact of this analysis is to identify the scope and magnitude of potential competitors and licensees of patents of the proposed merger.

FIG. 154

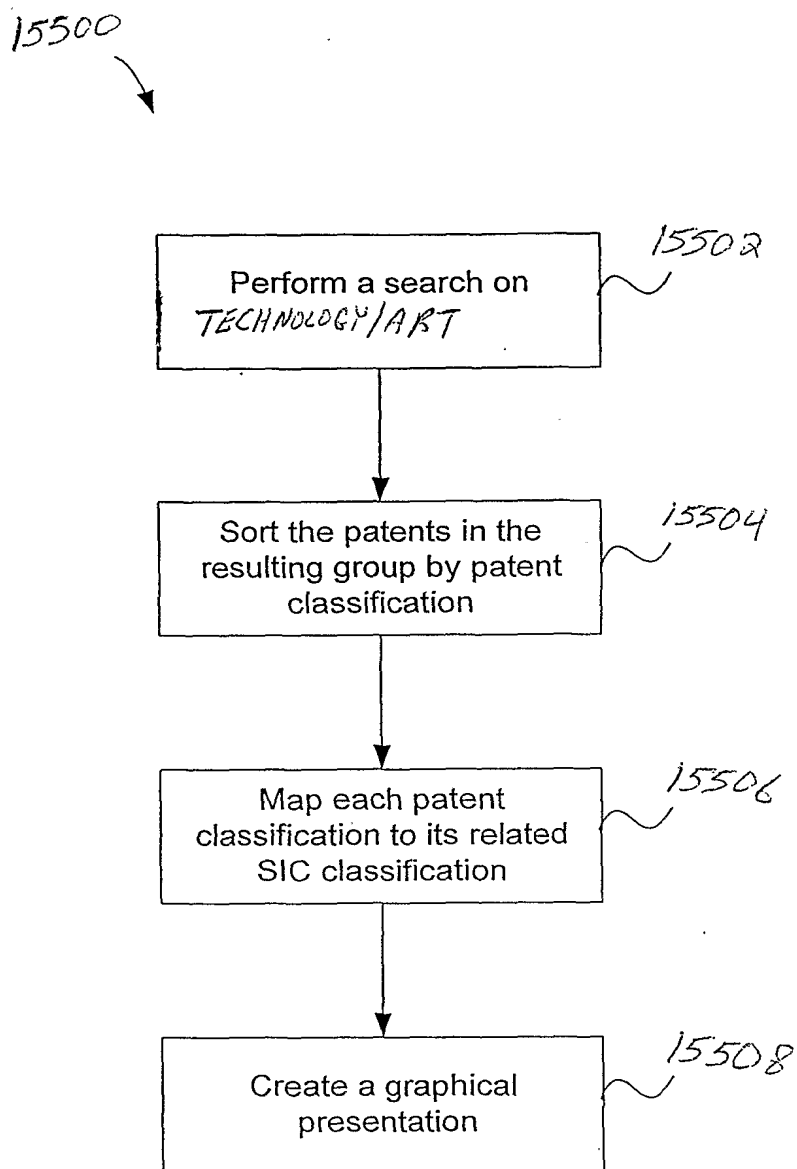


FIG. 155

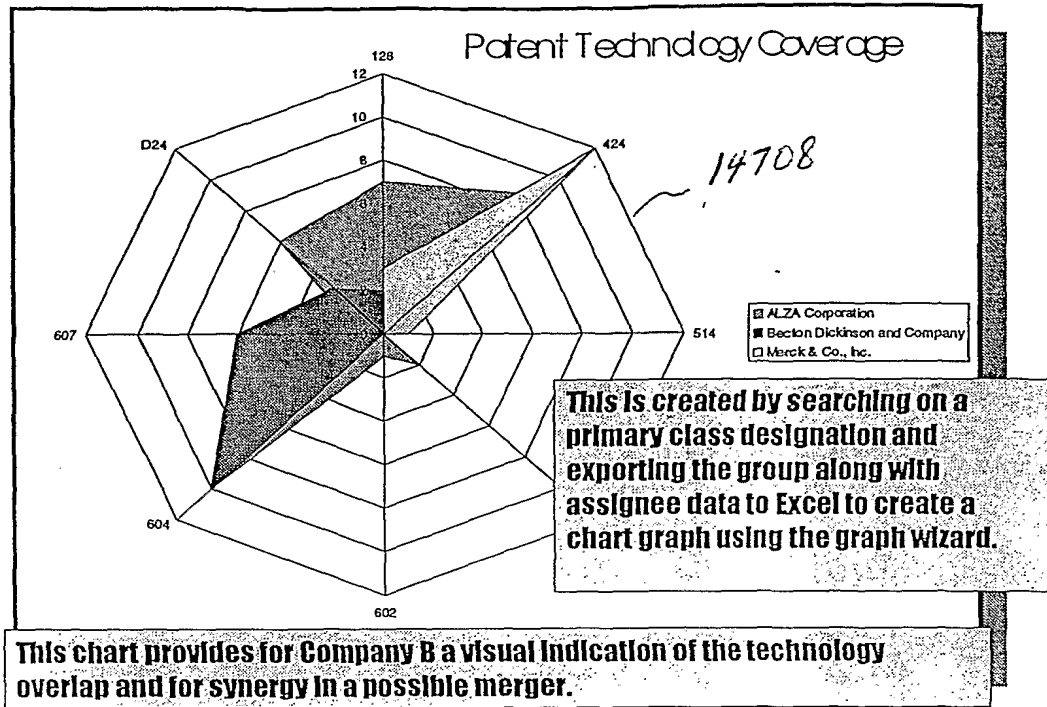
#26 Radar Diagram

FIG. 156

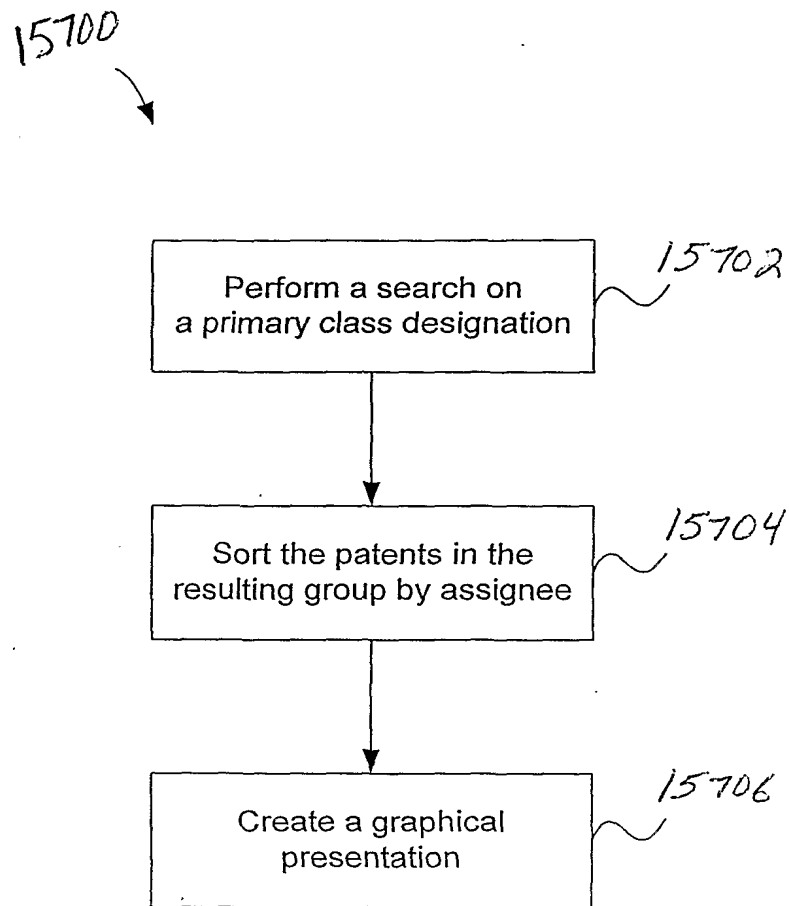
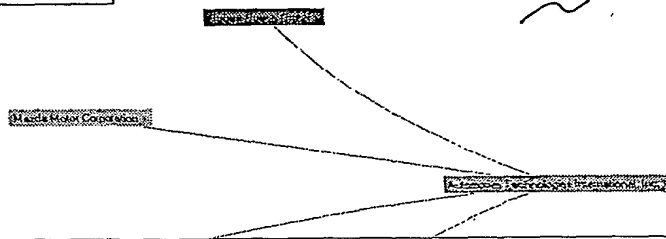


FIG. 157

#8A Patent Citation Tree Backward or Forward by Assignee

This report is created by running a backward or forward citation analysis for each patent that was frequently cited in #5 Citation Frequency Graph



This citation tree identifies which patents were cited as prior art to later inventions. These need to be investigated in the Evaluate/analyze and "due diligence" phases. The nodes of the tree can also be color coded with red to indicate a license to practice is needed, yellow to indicate freedom to practice is application dependent, and green to show complete freedom to practice. Other colors, "box" shapes or icons, or icons associated with the boxes to indicate freedom to practice may also be used. These "freedom to practice" diagrams may be used in the negotiation phase to indicate value, along with the complexity of the prior art relationships shown by the inherent structure of this tree.

FIG.: 158

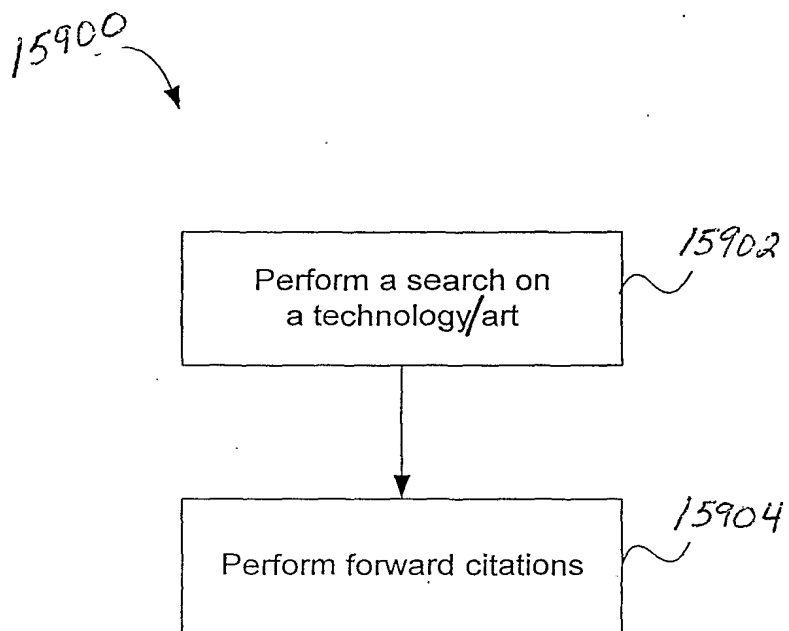
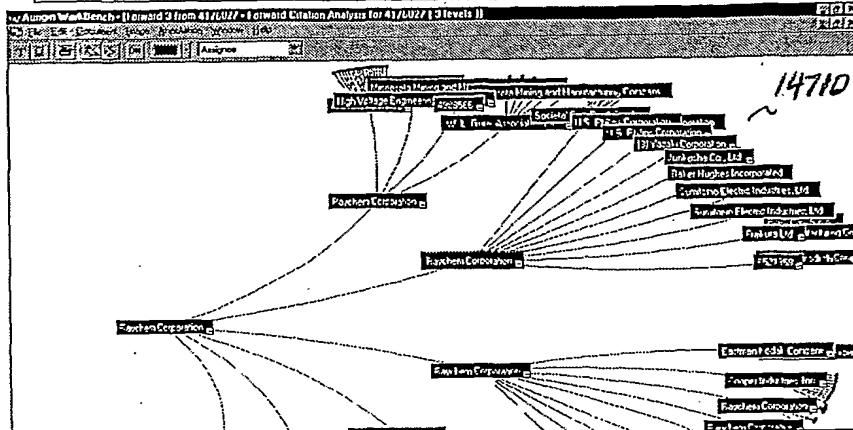


FIG. 159

#8b Patent Citation Tree

This is created by running the forward citation analysis for key patents which will transfer as part of the merger.



This citation tree shows which companies were free to practice and which were not free to practice the art in question.

Legend

License

Summary:

Use

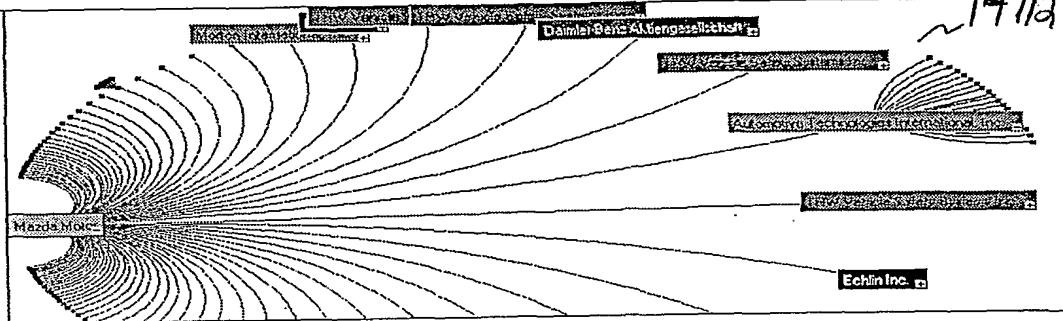
Hot Hands

When the nodes are color coded for right-to-practice (red-yellow-green) it shows which companies must take a license. This is a powerful visualization tool for the negotiation team. It shows the other side the depth of the analysis and the value of the patent under discussion. The tree also identifies for the negotiation team how fast the technical area is moving and how many companies are involved. It shows visually the uniqueness of the patent under discussion, and from the richness of the tree, how valuable it is.

F I G. 160

#10a Citation Root-tree

Created by: One citation backward of frequently cited patent in #5 citation frequency graph then 3 levels forward from a patent in #8 one level backward citation tree.



This citation tree shows which other companies are pursuing similar technology. Identifies how fast the technical area is moving and how many companies are involved. These companies must be evaluated further by the M&A team to determine the level of the opportunity or threat these closely linked companies represent to the merger. Identifies if these inventions occurred in the same patent class/subclass or a different area. Current year versus the most cited patent. Identifies the most current development work building off the same technology.

FIG. 162

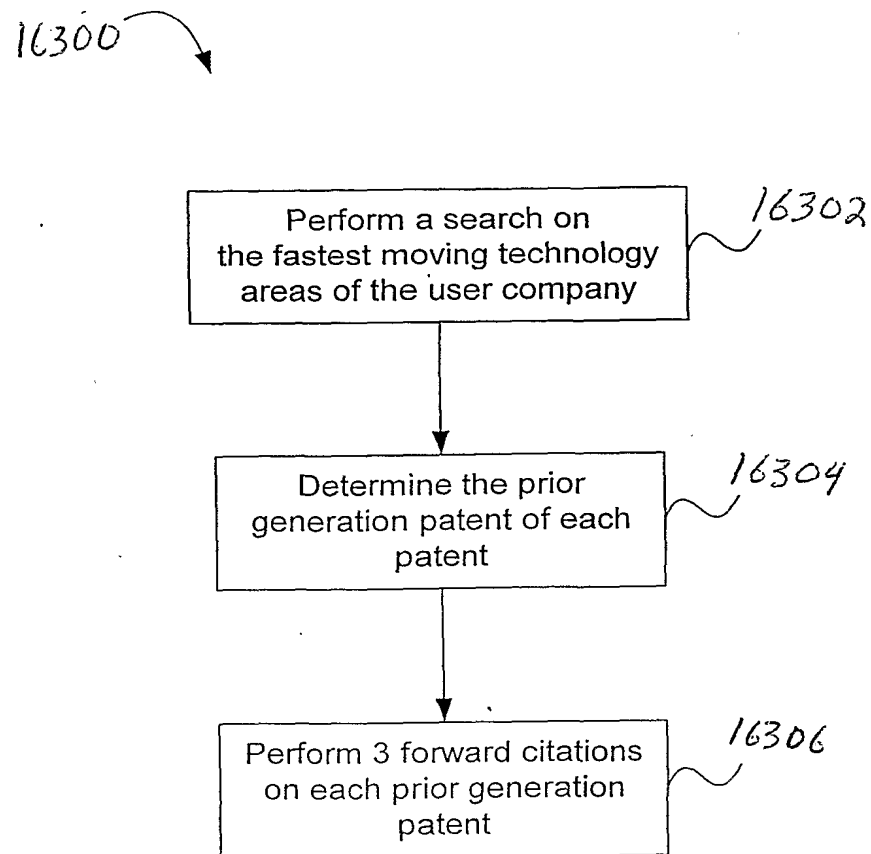
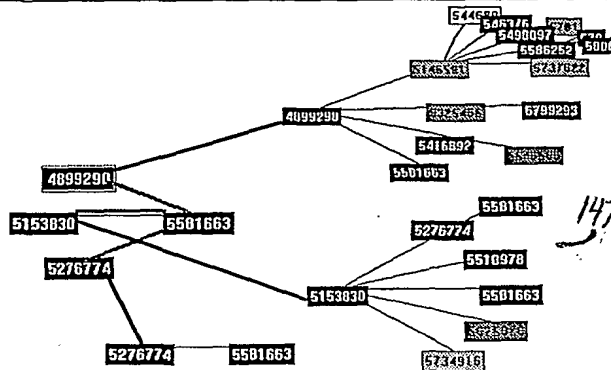


FIG. 163

#10b Patent Citation root-tree

For the company's fastest moving technology areas, patents in these areas are analyzed for spill-over technology drift. The map is created by going one citation back, then three forward using the Aureka system. The results are cut and pasted into a PowerPoint slide for visualization.



The citation root-tree shows which companies competitive intelligence should do a preliminary investigation for possible infringing products and services. The citation root-tree also shows other companies that might be interested in sub-licensing the art, thus generating extra cash flow and value from the merger.

Implication is that the company acquiring the patent may have an opportunity to sub-license further, and thereby mitigate or influence the value paid for the merger.

FIG. 164

#4 Citation Count Report 1st Level on US Patents

This report identifies patents that have been frequently cited in the 1st level forward. This will identify the most valuable patents in Company A's portfolio to further investigate in the "due diligence" phase.

Microsoft Excel - Citation Count Tokyo Electron, Ltd.		
A56 5061144		
Cited Patent ID	1st Cited Assignee	Cited Title
4615430	Tokyo Electron Limited	Precision pallet stacking to two-dimensional positions
4626749	Tokyo Electron Limited	Wafer handling apparatus
4733632	Tokyo Electron Limited	Ion-producing apparatus
4743912	Rikagaku Kogyosha	Primary particle beam track
4795186	Fujitsu Limited	Method of ashing layers, and apparatus for ashing
4812201	Tokyo Electron Limited	Probe apparatus
4812901	Tokyo Electron Limited	Developing apparatus
4955775	Tokyo Electron Limited	Water reclaiming and processing system
4959993	Tokyo Electron Limited	Pattern recognition method
4966732	Tokyo Electron Limited	Wafer transport apparatus for ion implantation sp
4973447	Tokyo Electron Limited	Mechanism for turning over a test head of a wafer
4976262	Tokyo Electron Limited	Electrical characteristic measuring apparatus
4980426	Tokyo Electron Limited	Moving table apparatus
4983663	Tokyo Electron Limited	Method of testing electrical characteristics of LCo
4989105	Tokyo Electron Limited	Coating device
4989686	Tokyo Electron Limited	Carrier for transferring plate-like objects one by o
4991011	Tokyo Electron Limited	Etching device and etching method
4993995	Tokyo Electron Limited	Exposure method and apparatus therefor
4995648	Tokyo Electron Limited	Treating method
4913790	Tokyo Electron Limited	Etching method and etching apparatus
4931135	Tokyo Electron Limited	Transfer apparatus for plate-like member
		Automatic wafer position aligning method for wa
		Electric probe test machine
		Heating furnace for semiconductor wafers
		Plate-like member receding apparatus
		Method and apparatus for heat-treating a substr
		Cooling of a plasma electrode system for an etch
		Apparatus and method of testing a semiconductor
		Method of positioning objects to be measured
		Plasma processing device
		Method for measuring surface temperature of se
		Automatic cooling system
4979134	Minolta Camera Kabushiki Kaisha	
4992694	Tokyo Electron Limited	

been frequently cited in the 1st level forward. This will identify the most valuable patents in Company A's portfolio to further investigate in the "due diligence" phase.

port is created by searching for US s in Company A's group in Aureka reporting the results to Excel.

3/14/89.7	
3/14/89.7	
8/8/89.4	
8/2/89.7	
9/12/89.6	
10/10/89.2	
10/17/89.7	
11/29/89.3	
1/30/90.11	
2/6/90.20	
2/13/90.8	
2/13/90.11	
3/13/90.21	
3/20/90.26	
4/30/90.13	
6/5/90.46	
7/17/90.4	
7/24/90.23	
8/2/90.6	
9/4/90.4	
9/11/90.9	
9/18/90.9	
10/16/90.21	
10/23/90.14	
10/30/90.5	
12/18/90.25	
12/18/90.66	
1/6/91.9	

This report is created by searching for US patents in Company A's group in Aureka and exporting the results to Excel.

FIG. 165

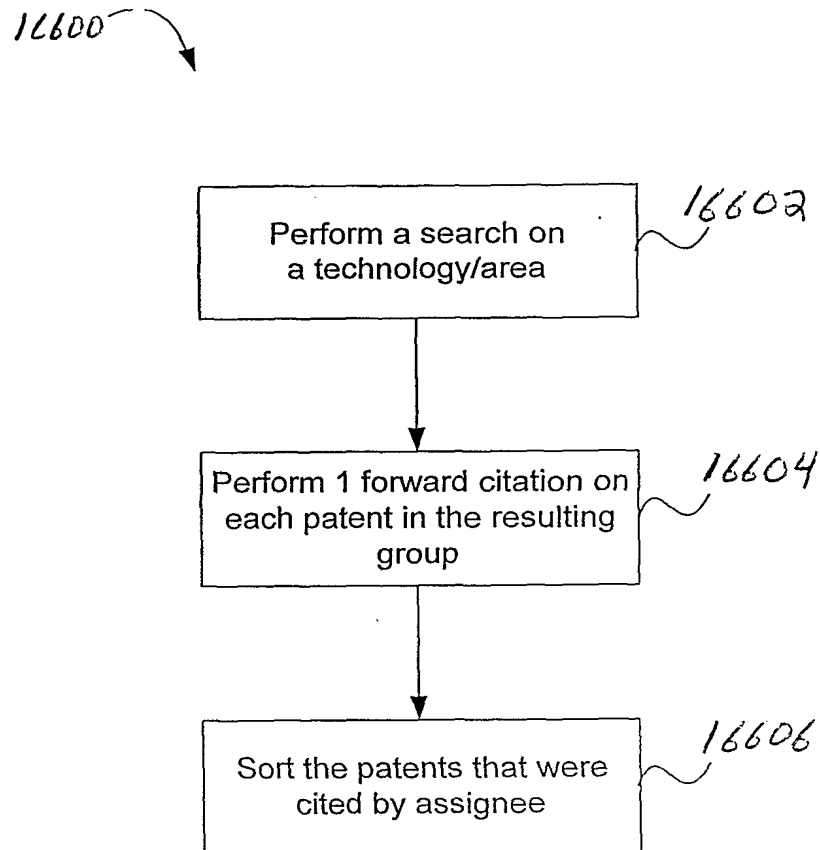
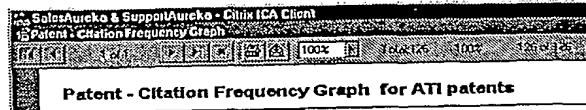


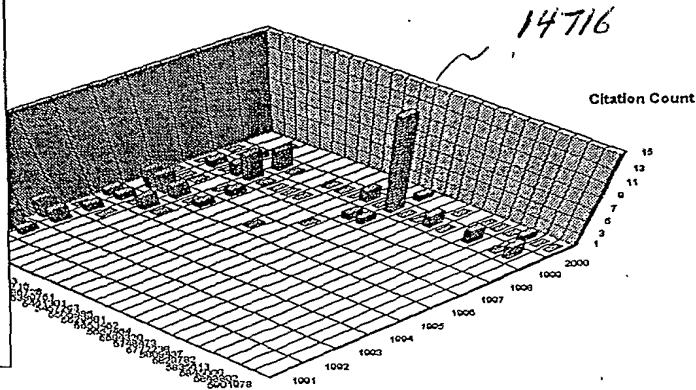
FIG. 166

#5 Citation Frequency Graph



This report is run in Aureka Reports.
It is the Citation Frequency Graph

Using the Aureka groups established in #1 & #2 this graph is created to identify frequently cited patents in both companies. The high columns (citation counts) identifies several patents that have been frequently cited within the last 5 years, to further investigate in the "due diligence" phase.



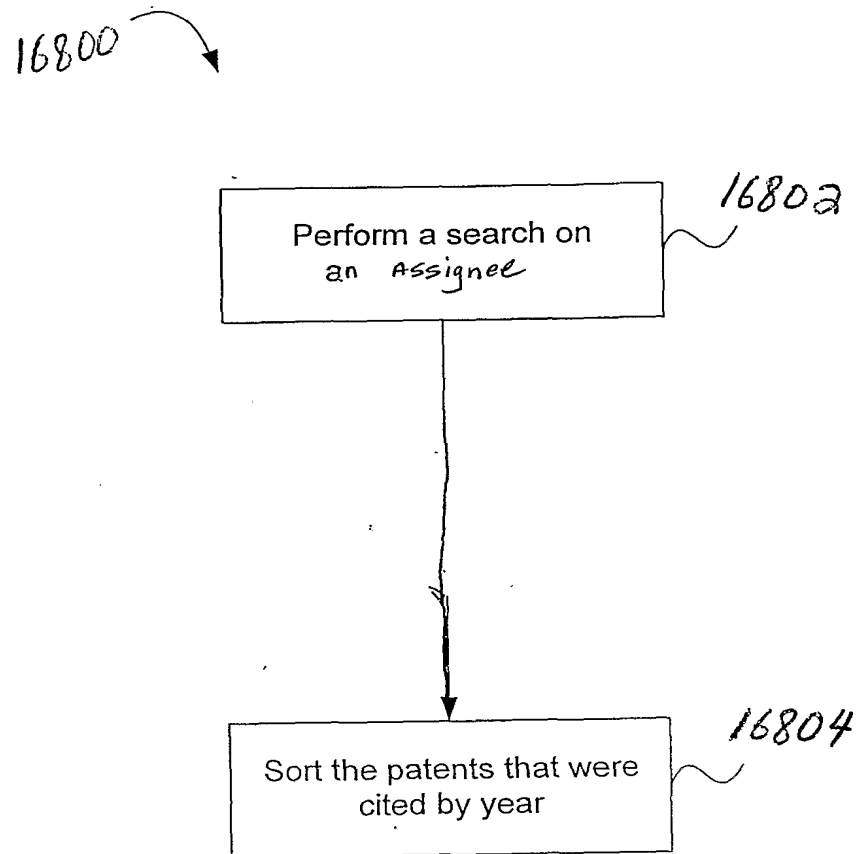
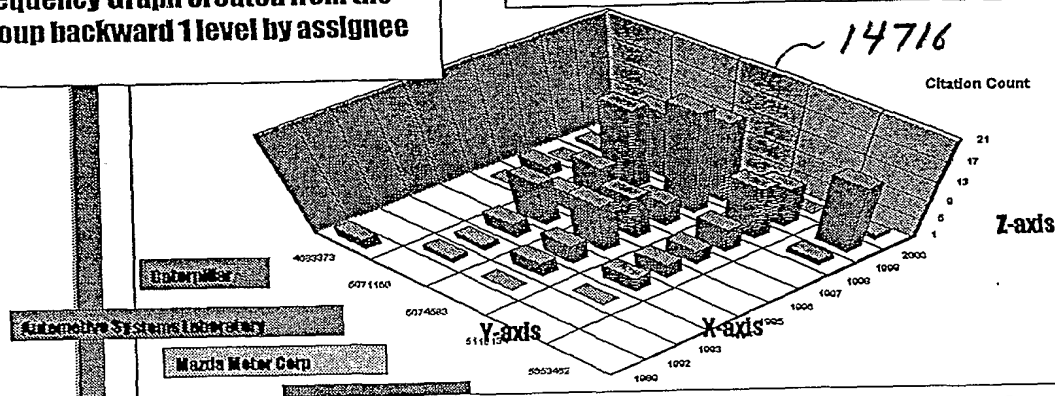


FIG. 168

#9 Citation Frequency Graph Backward or Forward by Assignee

**This report is run in Aureka Reports.
This example is the Citation
Frequency Graph created from the
group backward 1 level by assignee**

This chart analyzes the ancestral Prior Art Frequency Citations



This report identifies the companies and patents that were cited in the development of the patent from #8 citation tree backward 1 level. It identifies the citation frequency of these patents, and shows in this case that much work came from these base patents and that these competitors/colaborators have intertwined technology that the merger will have to negotiate.

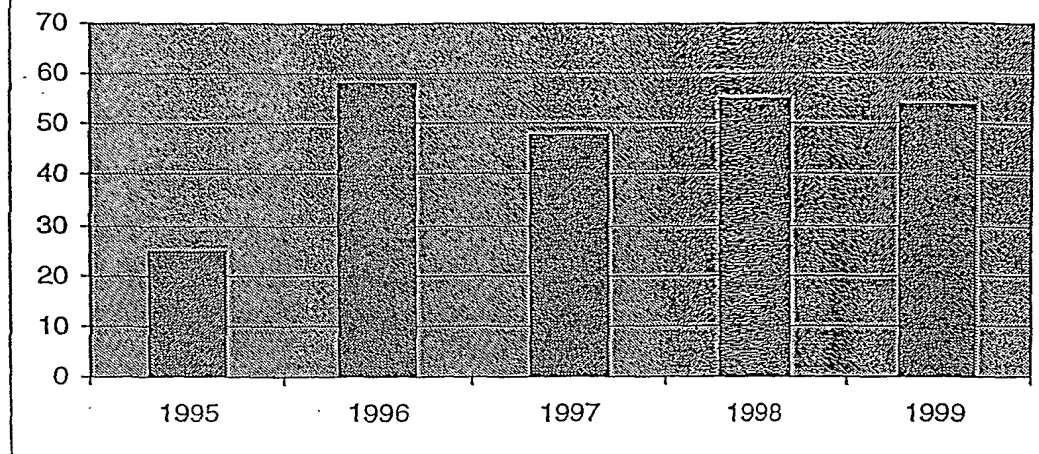
F I G. 169

Excel Graph of patent velocity In US class(es)

AUR|GIN

Report 10

patents



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48

FIG. 170

#6 Citation Frequency Report

SalesAureka & SupportAureka - Citrix ICA Client
Patent - Citation Frequency Report

This report is run in Aureka Reports.
It is the Citation Frequency Report

Using the Aureka groups established in #1 & #2 this report is created to identify frequently cited patents in both companies. The report identifies several patents that have been frequently cited within the last 5 years to further investigate for patent and business value.

Document	Title	Year	Citation Count
5453462	Vehicle occupant position and velocity sensor	1998	2
		1999	10
		2000	2
			19
	system with self shaping airbag		08/05/1997
		Year	Citation Count
		1999	1
			1
	impact occupant protection apparatus		12/02/1997
		Year	Citation Count
		1999	1
			1
	electric vehicle seat adjuster		05/05/1998
		Year	Citation Count
		1999	3
		2000	1
			4
5772730	Efficient airbag module		06/30/1998
		Year	Citation Count
			1

Identifies citation frequency by patent and year

Start | SalesAureka | SupportAureka | Reports | Patent - Citation Frequency

14718

FIG. 171

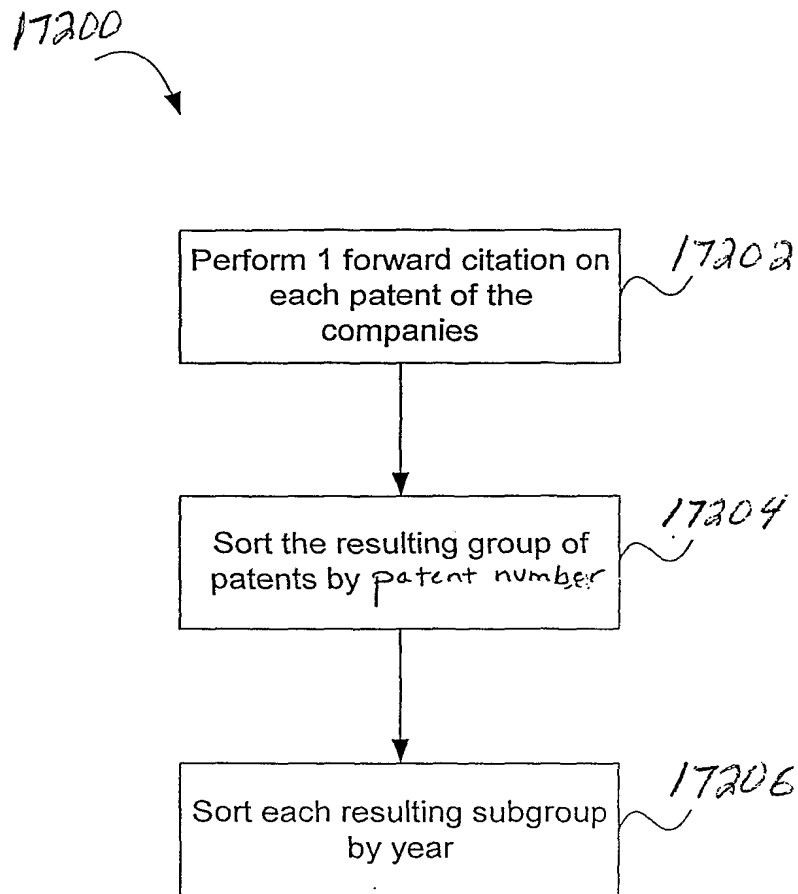


FIG. 172

#7 Citation Frequency by Assignee

Using the Aureka groups established in #1 & #2 this report is created to identify frequently cited patents by assignee in both companies. Identify several patents that have been frequently cited within the last 5 years to further investigate patent value.

This report is run in Aureka Reports. It is the Citation Frequency Report by Assignee

Occupant position and velocity sensor		08/05/1997
Assignee	Citation Count	
Merse Laboratory, Inc.	5	
Technologies International, Inc.	3	
Technologies, Inc.	3	
ely Concepts, Inc.	1	
live Technology, Inc.	1	
ent Company	1	
ation	1	
Corporation	1	
OmniH	1	
mon University	1	
Total Citations:	18	
system with self shaping airbag		08/05/1997
Assignee	Citation Count	
Automotive Technologies International, Inc.	1	
Total Citations:	1	
Rear Impact occupant protection apparatus		12/02/1997
Assignee	Citation Count	
TRV Inc.	1	
Total Citations:	1	
		05/05/1998
Assignee	Citation Count	
	1	
	1	

Identifies the frequency of citations by patent and assignee. The assignee list indicates who potential competitors and blockers of the merger might be.

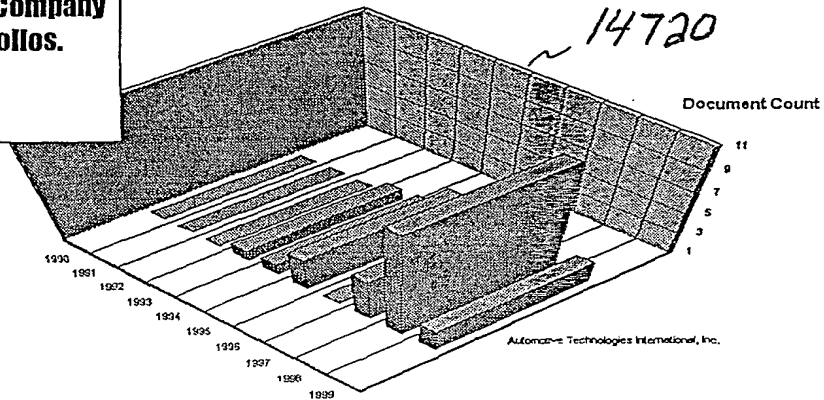
14718

FIG. 173

#12a US Patent Count/Year

Created by searching US patents on groups created for Company A & B in #1 and #2. This chart identifies the level and rate of change in Company A & B's US patent portfolios.

This report is run in Aureka Reports. It is the US Patent Count by Year Graph.



The chart identifies the intensity of the US development efforts and issued patents in the company being reviewed for acquisition. Higher activity brings higher valuation.

FIG. 174

17500

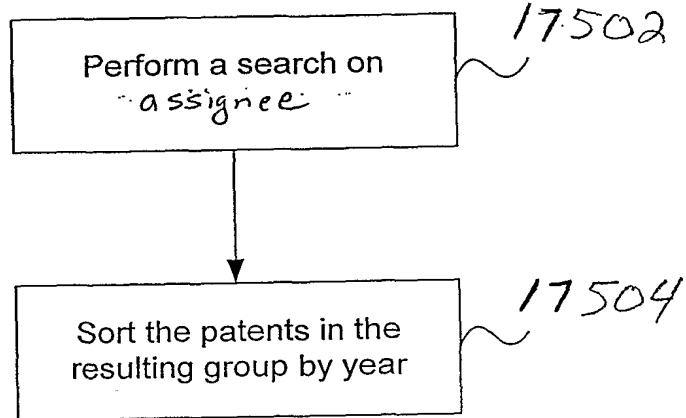
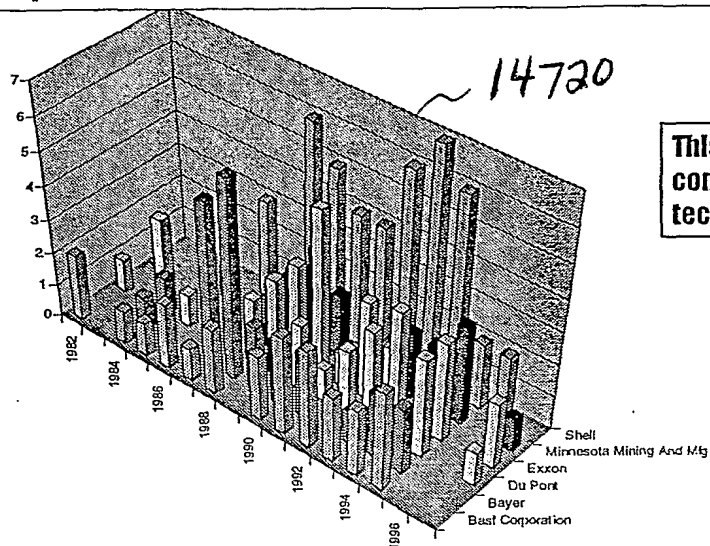


FIG. 175

#12b Patent count/year

Created by searching US patents on groups created for Company A & B in #1 and #2. This chart identifies the level and rate of change in Company A & B's US patent portfolios. It is a standard Aureka Report.



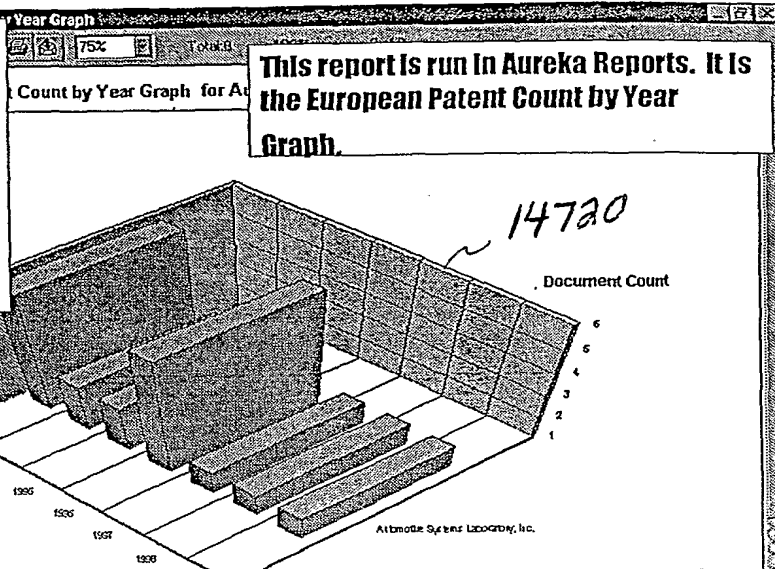
This chart identifies who has continuously developed the technology.

This chart identifies companies who have the competence to commercialize competing products to the proposed merger.

FIG. 176

#13 European Patent Count/Year

Created by searching EP-B patents on groups created for Company A & B in #1 and #2. This chart identifies the level and rate of change in Company A & B's EP-B patent portfolios.



The chart identifies the intensity of the EP-B development efforts and issued patents in the company being reviewed for acquisition. Higher activity brings higher valuation.

FIG. 177

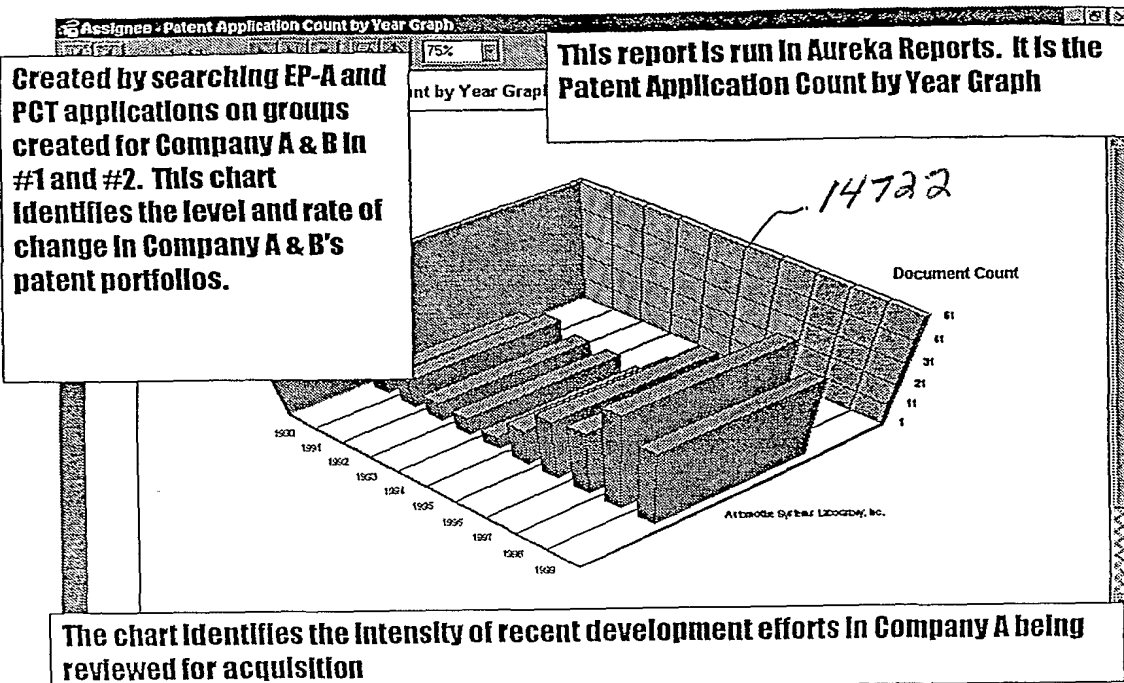
#14 Patent Application Count/Year

FIG. 178

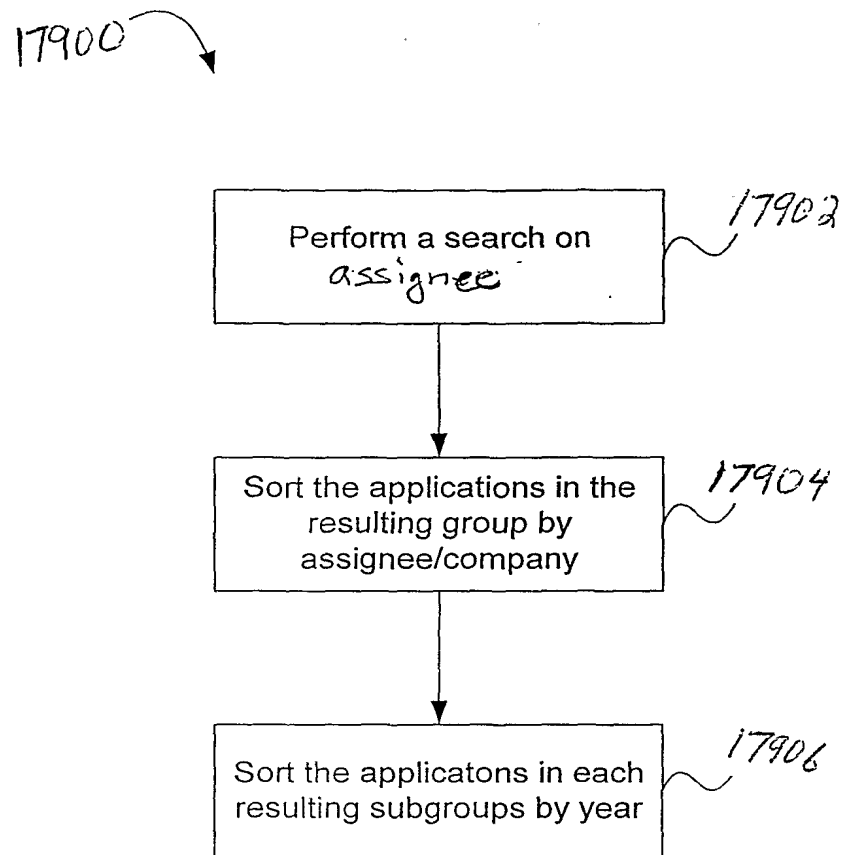
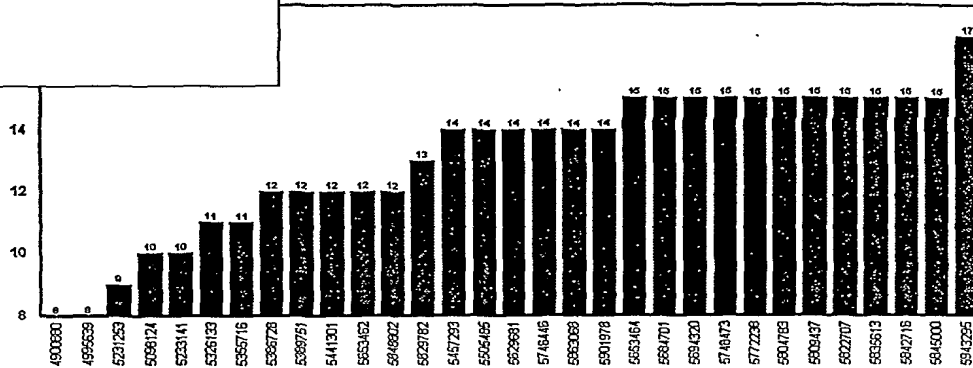


FIG. 179

#15 Maturity of US Patent Portfolio

Created by searching for US patents in group created for Company A in #1. This chart identifies the maturity level in Company A's US patent portfolio.

This report is run in Aureka Reports. It is the US Patent Aging Graph.



14724

The graph identifies for Company B the number of years to patent expiration in Company A's US portfolio to depict which technologies are young and will bring value to the merger, and which are old wherein invention growth is static.

FIG. 180

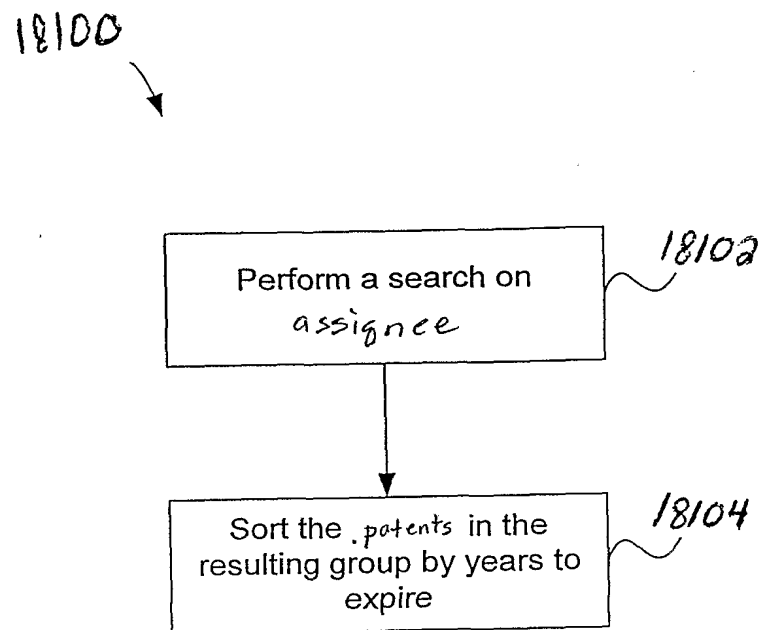
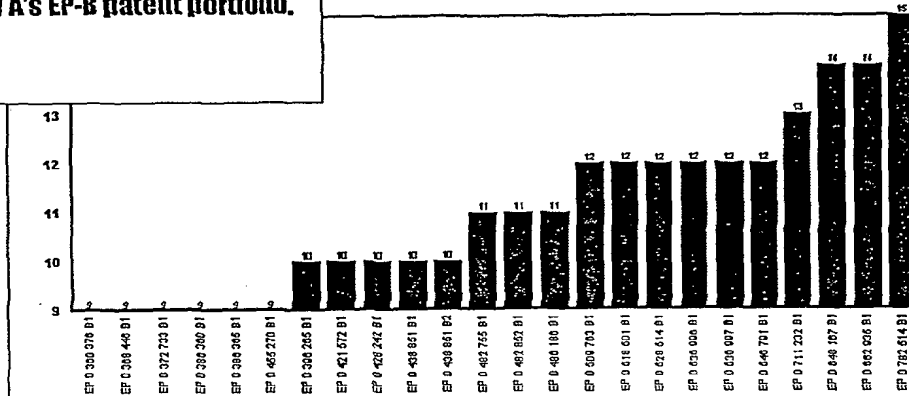


FIG. 181

#16 Maturity of European Patent Portfolio

Created by searching for EP-B patents in group created for Company A in #1. This chart identifies the maturity level in Company A's EP-B patent portfolio.

This report is run in Aureka Reports.
It is the European Patent Aging Graph.



The graph identifies for Company B the number of years to patent expiration in Company A's EP-B portfolio to depict which technologies are young and will bring value to the merger, and which are old wherein invention growth is static.

14724

FIG. 182

#19 US Primary Class/Subclass

This report is created by searching for US patents in Company A's and Company B's groups in Aureka and exporting the results to Excel. Sort the data by primary class for areas of patent concentration.

5	5231233	Side impact sensors	3/24/92	9/8/10	Automotive Technologies	Breed, David S.	280/751	
6	5233141	Spring mass passenger compartment	7/27/93	10/13/09	Automotive Technologies	Breed, David S.	200/61	45R
7	5326193	Sensor and bracket assembly	8/3/93	8/3/10	Automotive Technologies	Breed, David S.	200/61	45R
8	5355716	Generalized rotary shock and impact	7/5/94	11/20/11	Automotive Technologies	Breed, David S.	280/735	
9	5366729	Vibrator for subjecting an object to vi	10/16/94	10/18/11	Automotive Technologies	Castelli, Vittorio	73/1	D
10	5389751	Long dwell crash sensor	2/7/95	2/24/12	Automotive Technologies	Norton, Peter	73/689	
11	5441301	Crush sensing vehicle crash sensor	2/14/95	2/14/12	Automotive Technologies	Breed, David S.	200/61	45R
12	5457293	Inertia or gravity responsive tilt switch	8/15/95	8/15/12	Automotive Technologies	Breed, David S.	280/735	
13	5505495	Plastic film airbag	10/10/95	5/23/14	Automotive Technologies	Breed, David S.	200/61	52
14	5622681	Tubular sonic displacement sensor	4/9/96	5/23/14	Automotive Technologies	Breed, David S.	280/729	
15	5653462	Vehicle occupant position and velocit	5/13/97	5/13/14	Automotive Technologies	DuVall, Wilbur E.	304/665	
16	5653464	Vehicle occupant position and velocit	8/5/97	5/5/12	Automotive Technologies	Breed, David S.	280/735	
17	5684701	Airbag system with self shaping airb	8/5/97	10/5/16	Automotive Technologies	Breed, David S.	280/743	1
18	56894320	Method and apparatus for sensing a	11/4/97	6/7/15	Automotive Technologies	Breed, David S.	364/424	55
19	5746446	Rear impact occupant protection app	12/2/97	8/7/15	Automotive Technologies	Breed, David S.	364/424	55
20	5746448	Plastic film airbag	5/5/98	5/23/14	Automotive Technologies	Breed, David S.	280/743	1
21	5748743	Automatic vehicle seat adjuster	5/5/98	5/5/15	Automotive Technologies	Breed, David S.	364/424	55
22	5772238	Efficient airbag module	6/30/98	12/21/16	Automotive Technologies	Breed, David S.	280/728	2
23	5804783	Air damped crash sensor and constr	9/8/98	9/8/15	Automotive Technologies	Breed, David S.	200/61	45R

This report identifies primary class/subclass of the US patents in Company A's and B's portfolios to depict the area of patent concentration. This is checked for consistency with strategic intent during the "due diligence" phase.

14726

FIG. 183

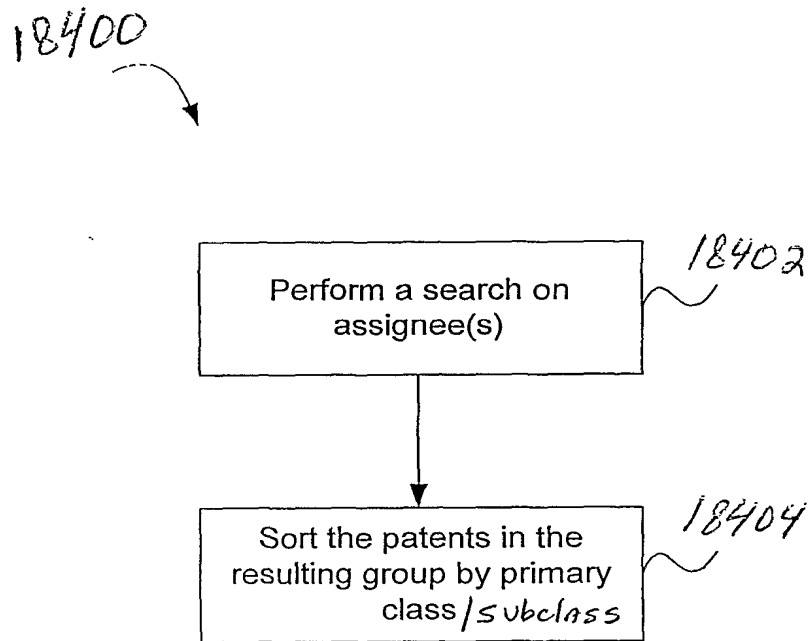


FIG. 184

#19A International Patent Class

This report is created by searching for EP-B patents in Company A's and Company B's groups in Aureka and exporting the results to Excel. Sort the data by International class for areas of patent concentration.

Document ID	Title	Issued	Expires	Assignee	IPC
EP 0 043 688 A1	VEHICLE SEAT BELT SYSTEM WITH BELT CLAMP	1/13/82		Takata Kogyo Co., Ltd.	B60R 21/10
EP 0 043 688 B1	VEHICLE SEAT BELT SYSTEM WITH BELT CLAMP	2/19/85	6/23/01	Takata Kogyo Co., Ltd.	B60R 22/02
EP 0 043 688 B1	VEHICLE SEAT BELT SYSTEM WITH BELT CLAMP	2/19/85	6/23/01	Takata Kogyo Co., Ltd.	B60R 22/56
EP 0 121 833 B1	SEAMLESS PRODUCT FOR REINFORCING AND STABILIZ	8/21/91	3/21/04	Highland Industries, Inc.	D04H 1/58
EP 0 121 833 B1	SEAMLESS PRODUCT FOR REINFORCING AND STABILIZ	8/21/91	3/21/04	Highland Industries, Inc.	D04H 1/70
EP 0 222 531 A2	VANITY MIRROR OR VEHICLE ACCESSORY ASSEMBLY	5/20/87		Ivin Industries, Inc.	B60N 1/05
EP 0 222 531 A2	VANITY MIRROR OR VEHICLE ACCESSORY ASSEMBLY	5/20/87		Ivin Industries, Inc.	B60R 1/12
EP 0 222 531 A3	VANITY MIRROR OR VEHICLE ACCESSORY ASSEMBLY	7/23/88		Ivin Industries, Inc.	B60N 3/00
EP 0 222 531 A3	VANITY MIRROR OR VEHICLE ACCESSORY ASSEMBLY	7/23/88		Ivin Industries, Inc.	B60R 1/00
EP 0 230 778 A3	MOTOR VEHICLE VISOR WITH REMOVABLE MIRROR AS	6/5/87		Ivin Industries, Inc.	B60J 3/00
EP 0 230 778 A3	MOTOR VEHICLE VISOR WITH REMOVABLE MIRROR AS	6/22/88		Ivin Industries, Inc.	B60J 3/00
EP 0 261 906 A2	SPRING-LOADED HINGE ASSEMBLY FOR VEHICLE ACCE	3/30/88		Ivin Industries, Inc.	B60J 3/00
EP 0 261 906 A2	SPRING-LOADED HINGE ASSEMBLY FOR VEHICLE ACCE	3/30/88		Ivin Industries, Inc.	E05D 11/10
EP 0 261 906 A3	SPRING-LOADED HINGE ASSEMBLY FOR VEHICLE ACCE	3/31/88		Ivin Industries, Inc.	E05D 7/10
EP 0 261 906 A3	SPRING-LOADED HINGE ASSEMBLY FOR VEHICLE ACCE	7/27/88		Ivin Industries, Inc.	B60J 3/00
EP 0 261 906 A3	SPRING-LOADED HINGE ASSEMBLY FOR VEHICLE ACCE	7/27/88		Ivin Industries, Inc.	E05D 11/10
EP 0 261 906 A3	SPRING-LOADED HINGE ASSEMBLY FOR VEHICLE ACCE	7/27/88		Ivin Industries, Inc.	E05D 7/10
EP 0 285 257 A2	VISOR WITH RETRACTABLE GLARE SHIELDS	10/5/88		Ivin Industries, Inc.	B60J 3/02
EP 0 285 257 A3	VISOR WITH RETRACTABLE GLARE SHIELDS	4/5/89		Ivin Industries, Inc.	B60J 3/02
EP 0 289 628 A1	ANCHOR DEVICE FOR SEAT BELTS	11/9/88		Takata Corporation	B60R 22/20
EP 0 289 628 A1	ANCHOR DEVICE FOR SEAT BELTS	11/9/88		Takata Corporation	B60R 22/24
EP 0 289 628 B1	ANCHOR DEVICE FOR SEAT BELTS	11/27/91	9/25/07	Takata Corporation	B60R 22/20
EP 0 289 628 B1	ANCHOR DEVICE FOR SEAT BELTS	11/27/91	9/25/07	Takata Corporation	B60R 22/24
EP 0 290 621 A1	ANCHOR DEVICE FOR SEAT BELTS	11/17/88		Takata Corporation	B60R 22/20
EP 0 290 621 A1	ANCHOR DEVICE FOR SEAT BELTS	11/17/88		Takata Corporation	B60R 22/24
EP 0 290 621 B1	ANCHOR DEVICE FOR SEAT BELTS	9/25/91	11/16/07	Takata Corporation	B60R 22/20
EP 0 290 621 B1	ANCHOR DEVICE FOR SEAT BELTS	9/25/91	11/16/07	Takata Corporation	B60R 22/24

This report identifies International class of the EP-B patents in Company A's and B's portfolios to depict the area of patent concentration. This is checked for consistency with strategic intent during the "due diligence" phase.

FIG. 185

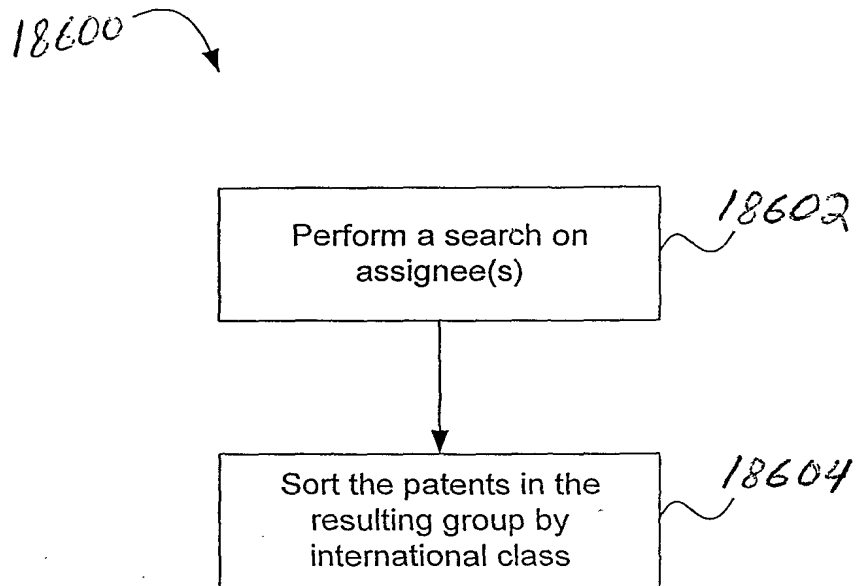


FIG. 186

#20 Patent Count Report for Primary Class

This report is created by searching Aureka Foundation Server by primary class designations identified in #19 US primary class/subclass. This is the US Patent Count Report by Assignee.

Report for All class 280

Document Count

600
584
336
324
310
307
285
270
201
249
212
190
107
106
180
172
107
153
110
100
103
103
101

Deere & Company
Mitsubishi Motors Corp. Ltd.
TYW Inc.
Takata Corporation
Toyota Jidosha Kogyo Kabushiki Kaisha

Identifies the top assignees in this primary class area by number of issued patents. It depicts where both Company A & B rank in the overall competitive landscape in this class. It highlights if the proposed merger will significantly broaden or deepen the patent portfolio, or not. This can be a valuation point during negotiation.

Create patent count reports for class and subclass areas of highest patent concentration identified in #19 US primary class/subclass.

14730

FIG. 187

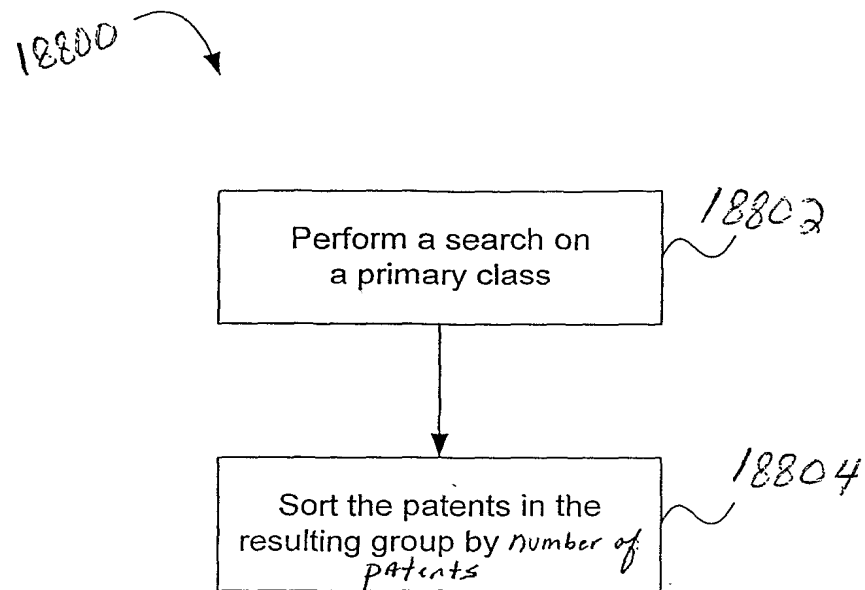


FIG. 188

#23 Assignee Patent Count Report for Class/Subclass

This report is created by searching Aureka Foundation Server on primary class/subclass designations identified in #19 US Primary Class/Subclass. This is the US Patent Count Report.

Sales/Aureka's Support/Aureka's Client ICA Client

Report for All Class 280/743

	Document Count
52	52
45	45
44	44
20	20
15	15
14	14
11	11
10	10
9	9
8	8
7	7
7	7
7	7
7	7
7	7
6	6
6	6
6	6
6	6
5	5
5	5
4	4
4	4
4	4
4	4
4	4
3	3
3	3
3	3
3	3

Ikeda Bussan Co., Ltd.
 Toyota Jidosha Kabushiki Kaisha
 Autoliv ABP, Inc.
 TRW Rapa GmbH
 TRW Inc.
 Bred Automotive Technology, Inc.
 Davidson Tackon Inc.
 Honda Giken Kogyo Kabushiki Kaisha
 Mitsubishi Research Corporation
 Toyota Motor Co., Ltd.
 Chrysler Corporation
 Kabushiki Kaisha Tokai-Rika-Densetsu
 Nissan Motor Co., Ltd.
 Takata, Inc.
 Asahi Kasei Kogyo Kabushiki Kaisha
 Kolbenachmidt Aktiengesellschaft
 Automotive Technologies International, Inc.
 Mazda Motor Corporation
 Sandia Corporation
 Simula Inc.
 Tip Engineering Group, Inc.
 Autoliv Development AB
 Automotive Systems Laboratory, Inc.

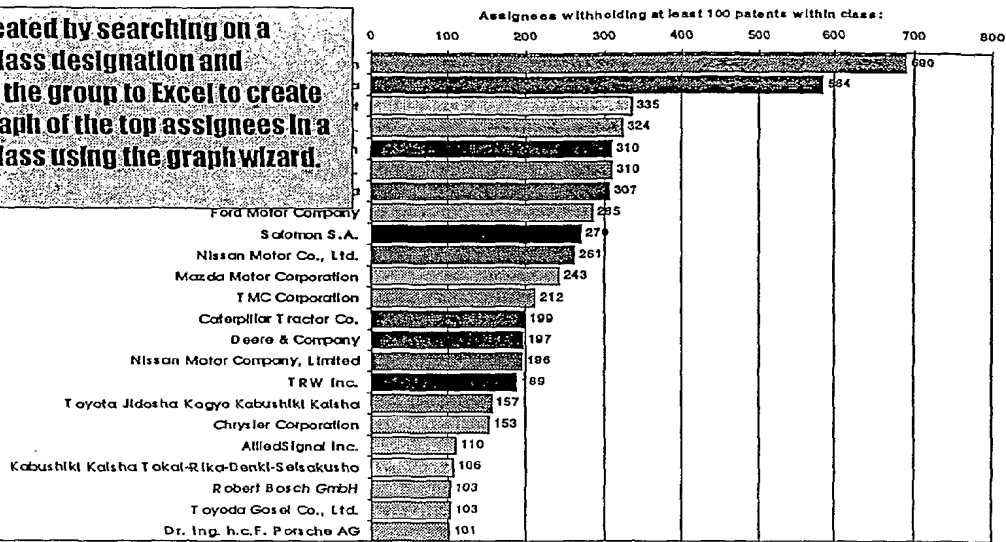
14730

Identifies the top assignees in this primary class/subclass area by number of patents issued. It depicts where both Company A & B rank in the overall competitive landscape in this primary class/subclass. Also highlights if the proposed merger will significantly broaden or deepen their patent portfolio.

FIG. 189

#21 Patent Count Graph of Top Assignees in Class

This is created by searching on a primary class designation and exporting the group to Excel to create a chart graph of the top assignees in a primary class using the graph wizard.



This chart gives Company B a visual indication of their position and Company A's position in the competitive landscape in a specific primary class by number of issued patents

14732

FIG. 190

#24 Patent Count Graph of Top Assignees in Patent Class/Subclass

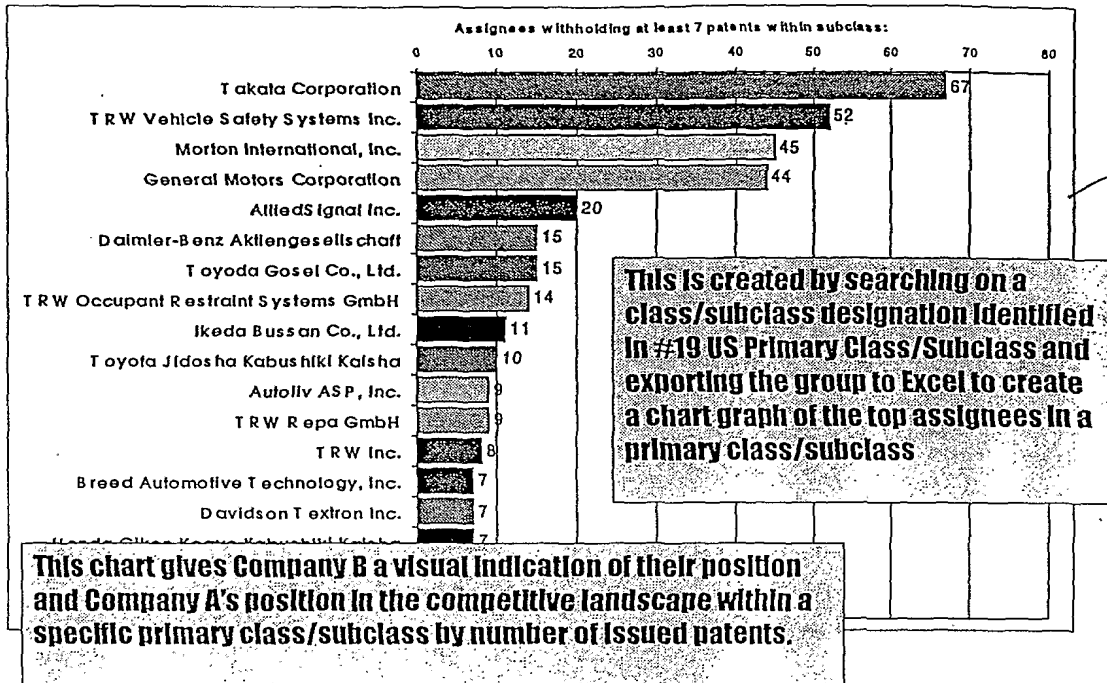


FIG. 191

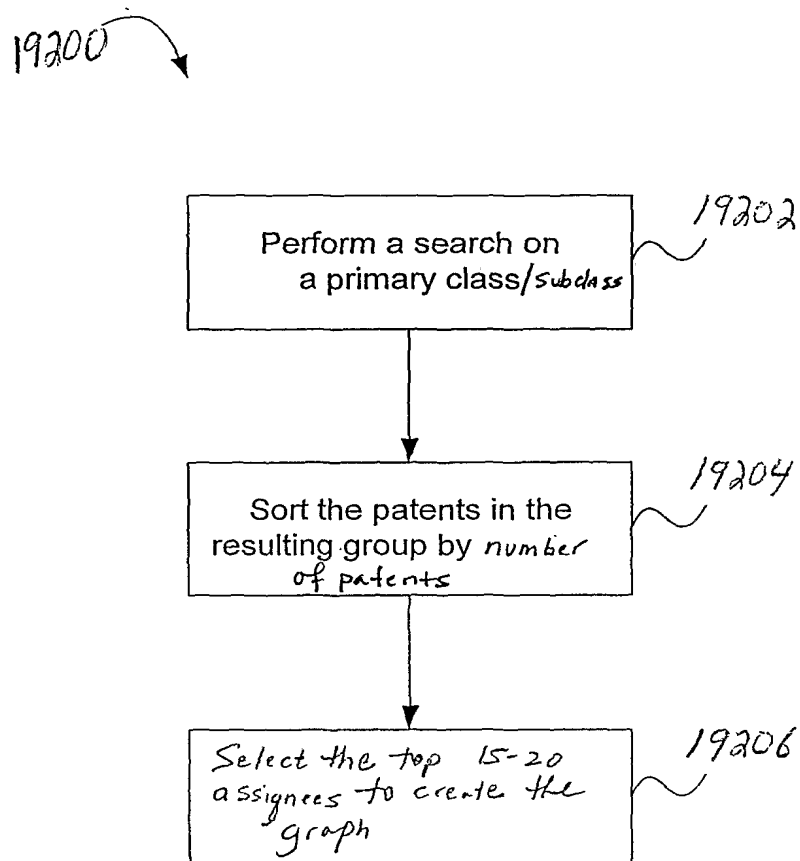
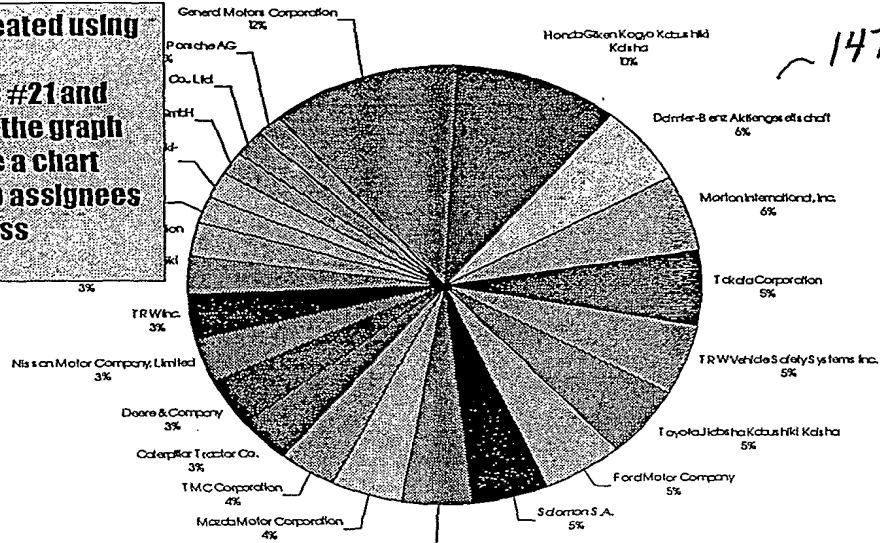


FIG. 192

#22 Top Assignees in Class by Percent of Total

This chart is created using the same Excel spreadsheet as #21 and graphing using the graph wizard to create a chart graph of the top assignees in a primary class



This chart gives Company B a visual indication of their position and Company A's position in the competitive landscape within a specific primary class by percentage of total issued patents.

FIG. 193

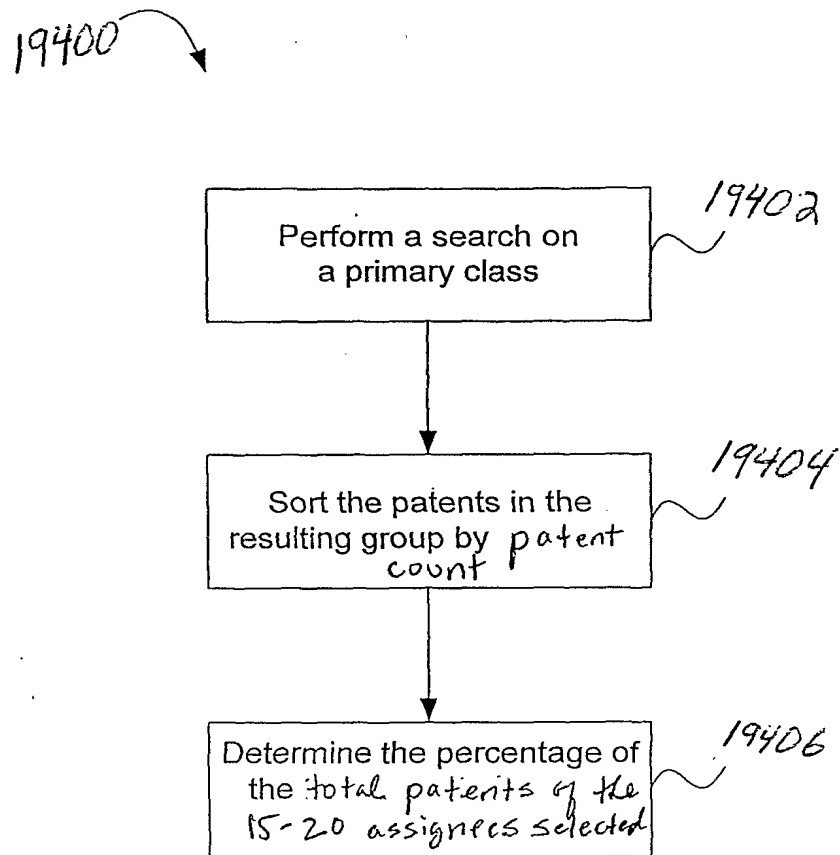
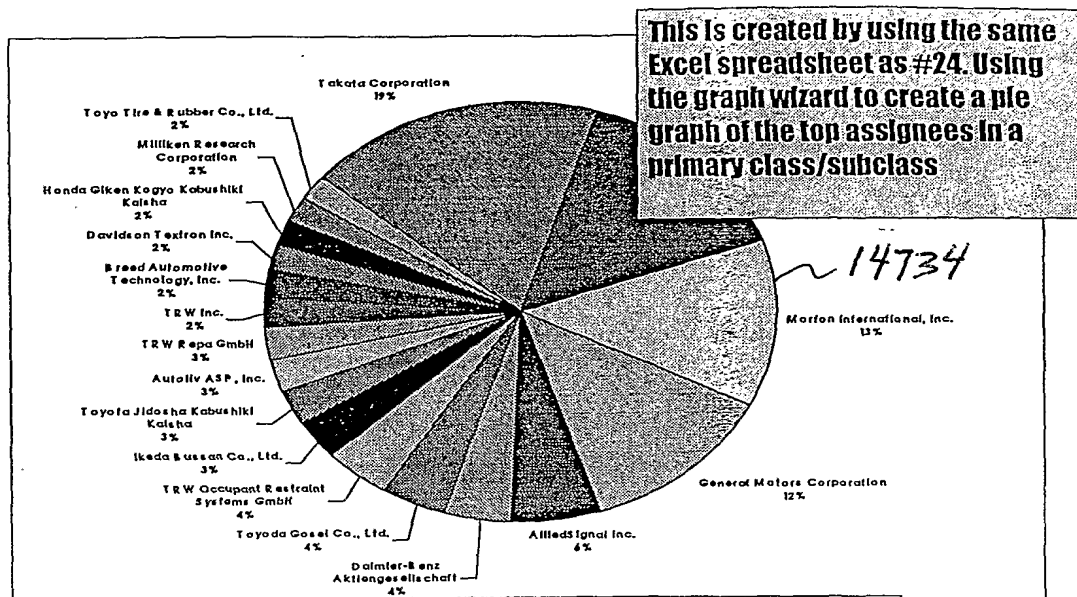


FIG. 194

#25 Top Assignees in Class/Subclass by Percent of Total



This chart gives Company B a visual indication of their position and Company A's position in the competitive landscape within a specific primary class/subclass by percentage of total issued patents

FIG. 195

#11 Months to Issue Patents

Created by searching US patents related to each technical area. The information is then exported to excel and the filing date subtracted from the issue date to obtain the prosecution time for each patent. The results are summarized and graphed using the wizard.

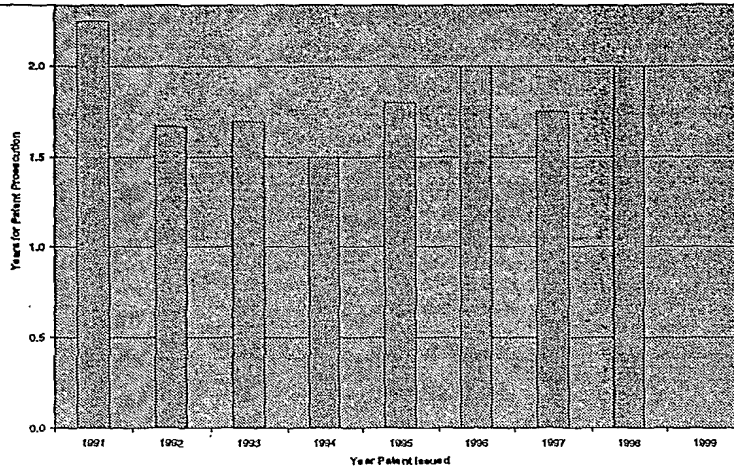


Chart shows average time patents in each technology area are hidden from the due diligence team's view.

~ 14736

Implication is the due diligence team should investigate or ask about the art in prosecution and modify its stance and decisions accordingly.

FIG. 196

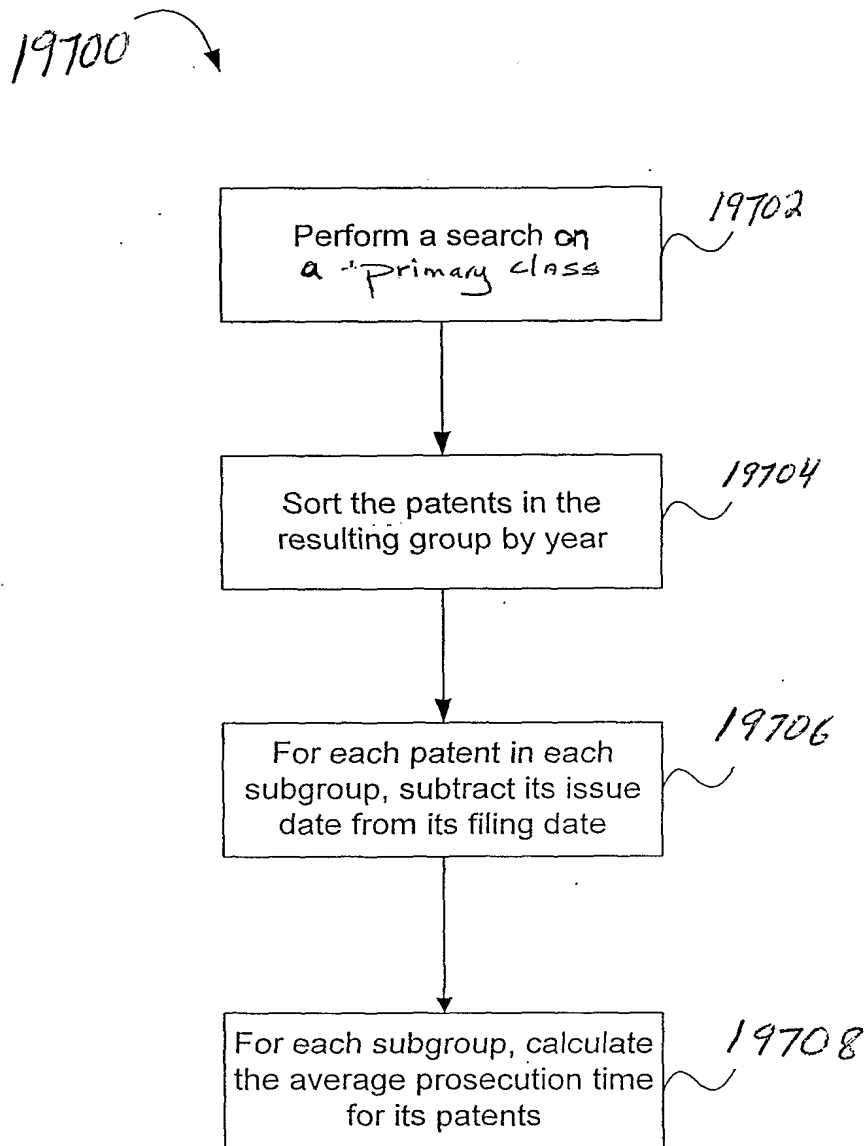
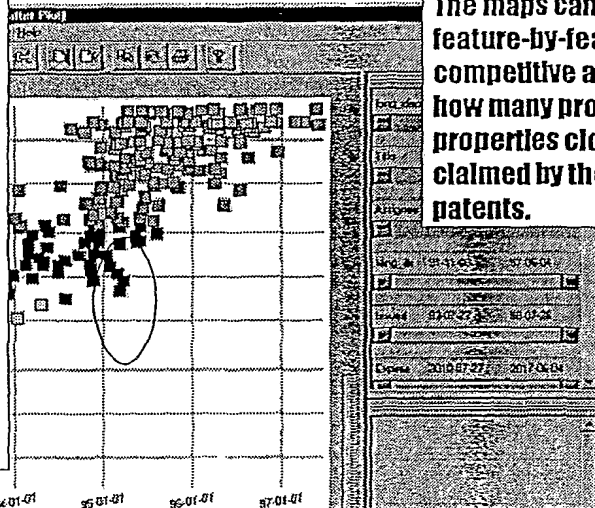


FIG. 197

#31 Features Grouping

Product attributes are analyzed by reverse engineering the proposed acquisition candidate and competitor's key products. The results are put in a database and sorted and grouped to create interactive maps of patented product or service features. Patents covering each product and feature are also entered into the database.



The maps can be looked at feature-by-feature and show the competitive alternatives and how many products have properties closest to those claimed by the company's patents.

The maps highlight which other products and services are using the company's patents. High level trends can be seen in these maps, showing that many or few products, and their customer features sets, are patent protected. This affects valuation during negotiation.

FIG. 198

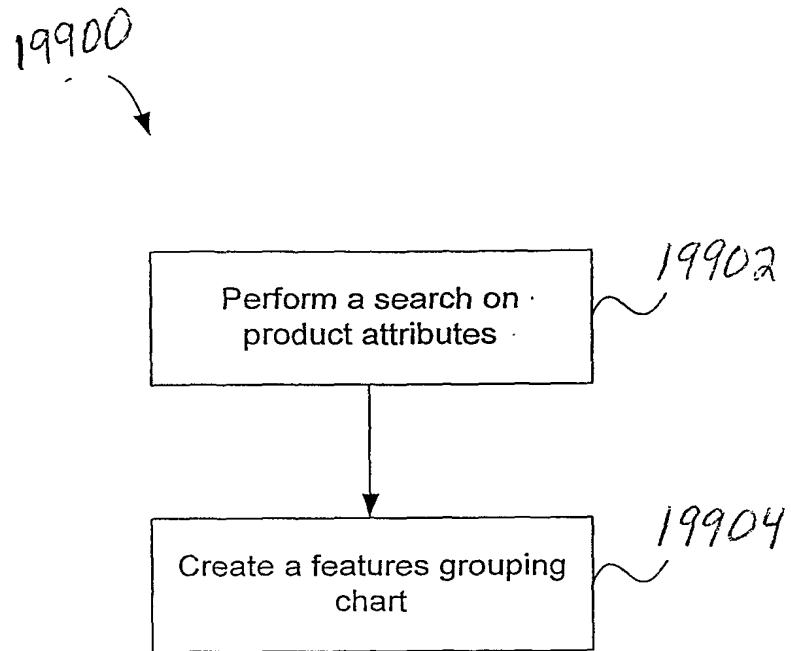
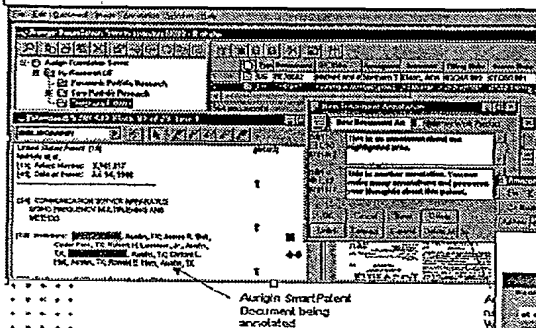


FIG. 199

#32 Document Annotation

During the Evaluate, Analyze, due diligence, and negotiation phases, the Individual analysts and teams can real-time annotate patents & corporate documents (company and outside Information sources like the web) using the annotation window in Aureka



These annotations document how each piece of information (patent, data sheet, press releases, etc.) is related to the others. This cross-reference and information capture speeds the M&A process.

This indexed knowledge is used to expedite individual assertion analysis activities as well as the efficiency of the assertion team's review meetings

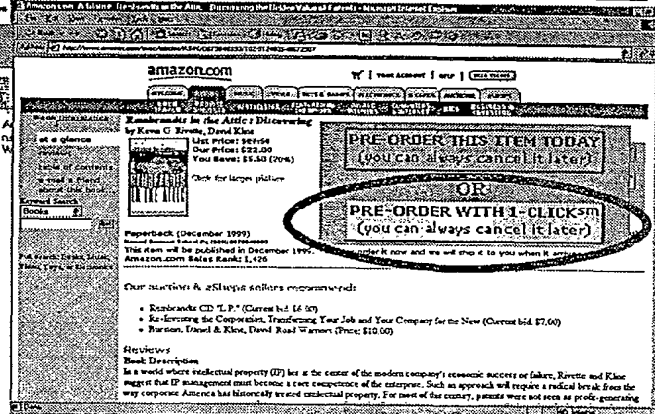


FIG. 200

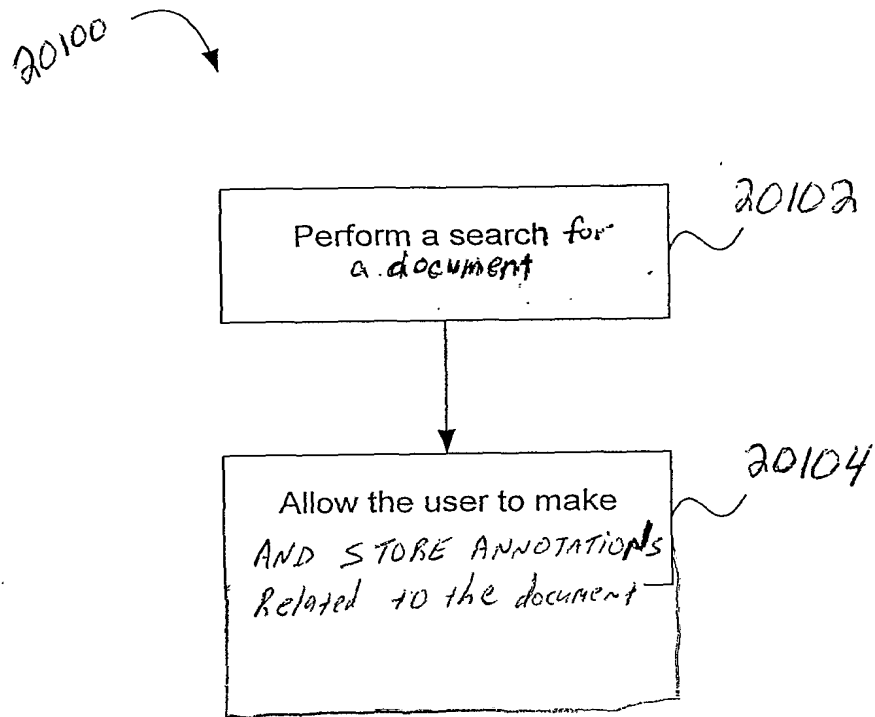


FIG. 201

#27 Inventor Patent Count Report Company A Patents

14742

SalesAureka & SupportAureka - Citrix ICA Client	
Inventor - Patent Count Report for ATI patents	
Inventor Name	Document
Breck, David B.	30
DuWall, William E.	8
Johnson, Wendell C.	7
Capelli, Victorio	4
Phillips, Brett D.	2
Sanders, W. Thomas	2
Sanders, William Thomas	1
Dowds, Jr., Richard	1
DuWall, William E.	1
Norton, Peter	1
Patal, Rashik Mangubhai	1
Pruszenko, Jr., Anthony G.	1
Shokoohi, Farvdoon	1
Varga, Andrew J.	1

This report is run in Aureka Reports.
It is the Inventor Patent Count Report.

Using the Aureka group established in #1 this report is created to identify inventors with most inventions in Company A patent portfolio

Identifies for Company B the key people in the development area and places value on the acquisition based on their continued employment. There is more value if they are still with the company.

FIG. 202

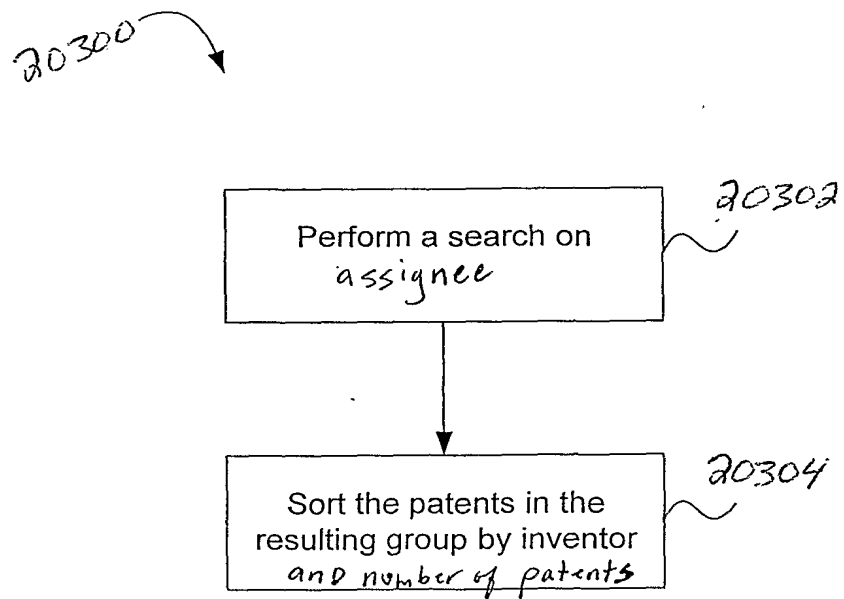


FIG. 203

#28 Inventor Patent Count by Assignee for Company A

Using the Aureka group established in #1 this report is created to identify multiple assignees that inventors have developed with. If the same assignees are listed with 3 or more inventors it is possible a JDA/Venture exists

This report is run in Aureka Reports. It is the Inventor Patent Count by Assignee Report.

Inventor - Patent Count by Assignee	
Count by Assignee for ATIP	Assignee
30	Automotive Technologies International, Inc.
9	Automotive Technologies International, Inc.
7	C. Automotive Technologies International, Inc.
4	Automotive Technologies International, Inc.
2	Automotive Technologies International, Inc.
2	Sanders, W. Thomas Automotive Technologies International, Inc.
2	Sanders, William Thomas Automotive Technologies International, Inc.
1	Downs, Jr., Richard Automotive Technologies International, Inc.
1	DuVall, William E. Automotive Technologies International, Inc.

Identifies for Company B possible JDA/Ventures between Company A and others. If so, due diligence must be done to determine if these possible JDA/ventures pose a benefit or threat to the acquisition/merged companies.

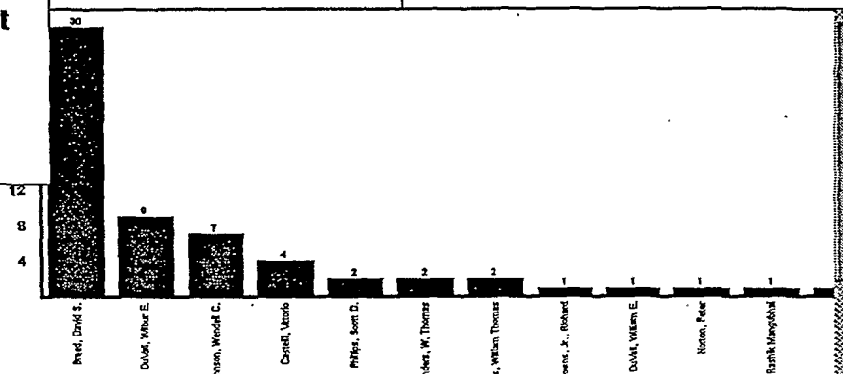
14742

FIG. 204

29 Inventor Patent Count Graph

Using the Aureka group established in #1 this report identifies the inventors with the most development effort in Company A's portfolio.

This report is run in Aureka Reports. It is the Inventor Patent Count Graph.



This chart gives Company B a visual indication of the inventors with the most inventions in Company A's patent portfolio. These inventors are crucial to the acquisition since their development efforts have contributed significantly to the success of Company A. This is a crucial negotiating factor in the acquisition.

FIG. 205

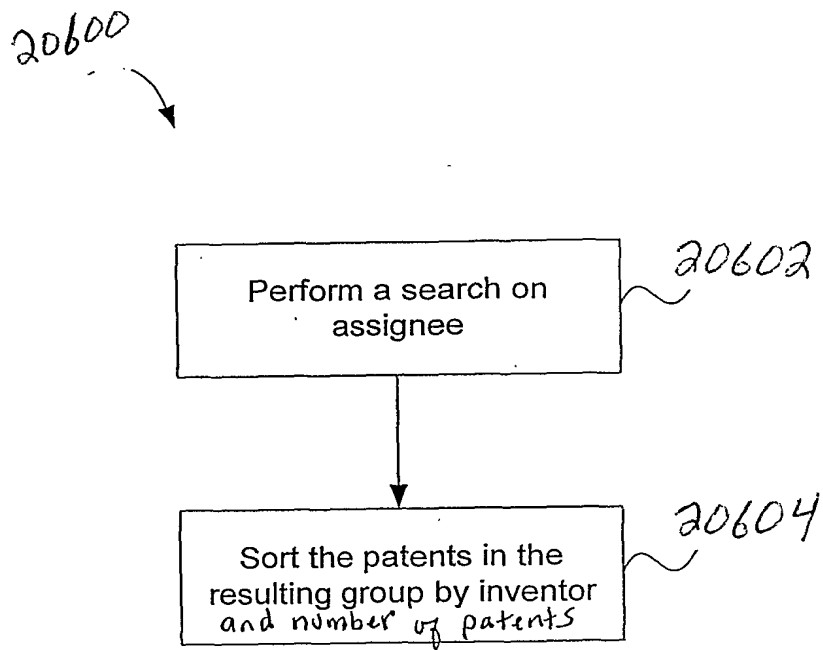


FIG. 206

#30 Inventor Data

This report is created by exporting
Company A's group in Aureka to Excel

A2	4900880				
25	5653462	Vehicle occupant position and velocity sensor	8/5/97	5/5/12	Breed, David S.
26	5653462	Vehicle occupant position and velocity sensor	8/5/97	5/5/12	Castelli, Vittorio
27	5653462	Vehicle occupant position and velocity sensor	8/5/97	5/5/12	Johnson, Wendell C.
28	5653462	Vehicle occupant position and velocity sensor	8/5/97	5/5/12	DuVall, William E.
29	5653462	Vehicle occupant position and velocity sensor	8/5/97	5/5/12	Patel, Rashik Mangubhai
30	5653464	Airbag system with self shaping airbag	8/5/97	10/5/15	Breed, David S.
31	5653464	Airbag system with self shaping airbag	8/5/97	10/5/15	Sanders, William Thomas
32	5684701	Method and apparatus for sensing a vehicle crash	11/4/97	6/7/15	Breed, David S.
33	5694520	Rear impact occupant protection apparatus	12/2/97	6/7/15	Breed, David S.
34	5746445	Plastic film airbag	5/5/98	5/23/14	Breed, David S.
35	5746446	Plastic film airbag	5/5/98	5/23/14	Sanders, William Thomas
36	5746473	Automatic vehicle seat adjuster	5/5/98	5/5/15	Breed, David S.
37	5746473	Automatic vehicle seat adjuster	5/5/98	5/5/15	DuVall, Wilbur E.
38	5772238	Efficient airbag module	6/30/98	12/12/15	Breed, David S.
39	5772238	Efficient airbag module	6/30/98	12/12/15	Sanders, W. Thomas
40	5804783	Air damped crash sensor and construction metho	9/8/98	9/8/15	Breed, David S.
41	5809437	On board vehicle diagnostic module using pattern	9/15/98	9/15/15	Breed, David S.
42	5822707	Automatic vehicle seat adjuster	10/13/98	10/13/15	Breed, David S.
43	5822707	Automatic vehicle seat adjuster	10/13/98	10/13/15	DuVall, Wilbur E.
44	5829762	Vehicle interior identification and monitoring syst	11/3/98	3/31/13	Breed, David S.
45	5829762	Vehicle interior identification and monitoring syst	11/3/98	3/31/13	Johnson, Wendell C.

Identifies the average number of inventors per patent. This will depict if the culture in Company A's developers is to work alone or in a team environment. Will this culture be a post-merger compatibility fit for Company B culture

FIG. 207

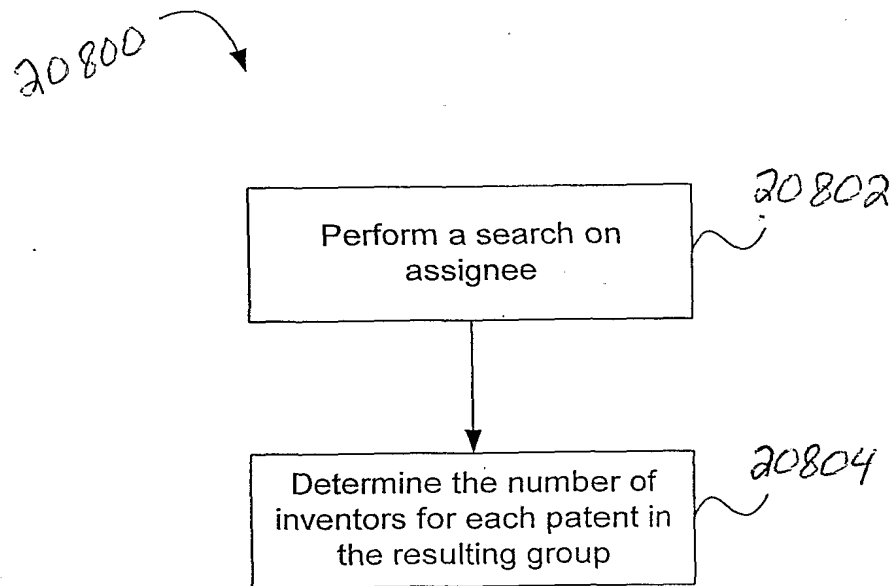


FIG. 208

#3a Topographic Map Company A's Technology Area

Groups are created by assignee, Boolean and natural language searches on the products, uses and technologies covered in Company A's patent portfolio.

A group is created in Aureka combining the patents of Company A and Company B portfolios and the general technology area of Company A. This group is exported to Cartia.

Map shows dominance or area of technology focus of Company A's industry and the distinguishing areas of patent concentration in the competitive landscape.

FIG. 209

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/09584

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60

US CL : 705/7

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/7, 705/1, 707/5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, DIALOG, STN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,041,323 A (KUBOTA) 21 March 2000, Title, Abstract and Figs. 1 through 15	1-9
X	US 6,067,528 A (BREED ET AL) 23 May 2000, col 2, lines 17-21, 58-67, col 3, lines 3-5, 24-26, Fig. 9B (MANAGEMENT), Fig. 10A (SIC Code)	1-9

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

"	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"B"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

11 MAY 2001

Date of mailing of the international search report

08 JUN 2001

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

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